Directions (1-10): What will come in place of question mark (?) in the following questions?

1. 1, 5, 14, 30, 55, 91,?

a. 128

b. 140

c. 135

d. 138

e. 142

2. 5, 12, 26, 47, 75, ?

a. 100

b. 115

c. 105

d. 110

e. 125

3. 36, 45, 63, 90, 126, ?

a. 171

b. 165

c. 174

d. 161

e. 181

4. 21, 30, 55, 104, 225,?

a. 388

b. 372

c. 380

d. 394

e. 398

5. 6, 18, 42, 90, 186, ?

a. 390

b. 384

c. 360

d. 370

e. 378

6. 12, 13, 22, 47, 96, ?

a. 177

b. 217

c. 196

d. 160

e. 172

7. 6, 3, 3, 4.5, 9, ?

a. 23.5

b. 20

c. 22.5

d. 21.5

e. 24

8. 16, 22, 33, 49, 70, ?

a. 95

b. 96

c. 85

d. 91

e. 106

9. 3680, 1840, 920, 460,? ,115, 57.5

a. 225

b. 230

c. 220

d. 245

e. 235

10. 3, 12, 48, 192, 768, ?

a. 3132

b. 3072

c. 3060

d. 3020

e. 3200

Directions (11-20): What will come in place of question mark (?) in the following questions?

11. 4, 2, 2, 4, 16, ?

a. 64

b. 72

c. 96

d. 128

e. 156

12. 2, 10, 37, 101, 226, ?

a. 324

b. 442

c. 526

d. 636

e. 784

13. 2, 2, 3, 6, 15, 45, 157.5, ?

a. 250

b. 320

c. 450

d. 630

e. None of these

14. 2160, ? , 72, 18,6,3

a. 280

b. 170

c. 360

d. 340

e. None of these

15. 6,3,3,4.5,9,?

a. 22.5

b. 22

c. 23

d. 23.5

e. None of these

16. 1440,?,48,12,4,2

a. 240

b. 260

c. 220

d. 390

e. None of these

17. 339, ?, 345, 353, 369

a. 353

b. 340

c. 290

d. 341

e. None of these

18. 24,48,144,576,2880,?

a.17280

b.16640

c. 14400

d. 20160

e. 14240

19. 5, 5, 15, 75, 525, 4725, ?.

a. 51795

b. 50135

c. 51025

d. 50175

e. 51975

20. 196, 200, 209, 234, 283, 404, 573, ?

a. 872

b. 840

c. 884

d. 878

e. 862

Directions (21-30): What will come in place of question mark (?) in the following questions?

21. 7, 13, 24, 40, 61, ?

a. 87

b. 92

c. 89

d. 93

e. None of these

22. 1200, 1119 , 1055 , 1006, ?

a. 960

b. 970

c. 910

d. 900

e. None of these

23. 2561 , 2440 ,2359 , 2310 , 2285, ?

a. 2233

b. 2224

c. 2269

d. 2276

e. None of these

24. 135, 99 ? 45 27 15 9

a. 65

b. 66

c. 67

d. 69

e. None of these

25. 20, 19, 20, 18, 20, ?

a. 17

b. 13

c. 14

d. 15

e. None of these

26.87, 109, 142, 186 , ?

a. 214

b. 124

c. 241

d. 421

e. None of these

27. 210, 420,1050,3150, ?

a. 11025

b. 5690

c. 7654

d. 9876

e. None of these

28. 1011, 980, 951, 924, 899, ?

a. 874

b. 876

c. 808

d. 796

e. None of these

29. 57, 59.5, 54.5, 62, 52, ?

a. 64.5

b. 31.5

c. 65.5

d. 55.5

e. None of these

30. 54, 55, 63, 90, 154, ?

a. 265

b. 321

c. 254

d. 279

e. None of these

Directions (31-40): What will come in place of question mark (?) in the following questions?

31. 12, 24, 27, 54, 57, ?

a. 116

b. 106

c. 114

d. 122

e. 146

32.3, 8, 15, 26, ?

a. 39

b. 40

c. 29

d. 28

e. None of these

33. 8, 4, 4, 6, 12, ?

a. 35

b. 30

c. 47

d. 12

e. None of these

34.3, 1.5, 1.5, 2.25, 4.5, ?

a. 11

b. 12

c. 11.25

d. 12.50

e. None of these

35. 9, 14, 21, 32, 45, ?

a. 59

b. 60

c. 61
d. 62
e. None of these

36. 14, 7, 7, 14, 56, ?

a. 448
b. 488
c. 484
d. 844
e. None of these

37. 12,6, 6, 12, 48 ?

a. 391
b. 384
c. 284
d. 250
e. None of these

38. 4, 5, 9, 18, 34, 59, ?

a. 96
b. 90
c. 95
d. 86
e. None of these

39. 4, 16, 26, 34, 40, ?

a. 41
b. 42
c. 43
d. 44
e. None of these

40. 825, 582, 501, 474, 465, ?

a. 450
b. 150
c. 400
d. 462
e. None of these

Directions (41-50): What will come in place of question mark (?) in the following questions?

41. 8, 12, 24, 60, 180, ?

a. 650
b. 630
c. 720
d. 500
e. None of these

42. 16, 17, 13, 22, 6, ?

a. 32
b. 31
c. 30
d. 25
e. None of these

43. 3, 6, 24, 144, 1152, ?

a. 11520
b. 11521
c. 11519
d. 11530
e. None of these

44. 11, 12, 16, 25, 41

a. 66
b. 78

c. 91

d. 33

e. None of these

45. 12, 12, 24, 72, 288, ?

a. 1441

b. 1440

c. 1445

d. 1448

e. None of these

46. 11 11 22 66 264 ?

a. 1333

b. 1230

c. 1320

d. 1111

e. None of these

47. 1, 3, 15, 105, ?

a. 723

b. 899

c. 548

d. 945

e. None of these

48. 120, 24, 6, 2, ?, 1

a. 1

b. 1.25

c. 0

d. 1.5

e. None of these

49. 7, 10, 16, 28, ? 100

a. 50

b. 100

c. 75

d. 90

e. None of these

50. 9, 13, 21, 37, ? 133

a. 79

b. 89

c. 69

d. 99

e. None of these

Answer Key with Solution

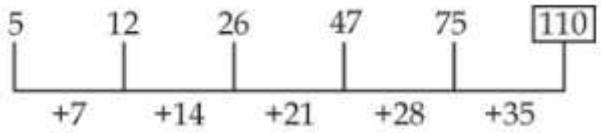
Solution (1-10)

1. B

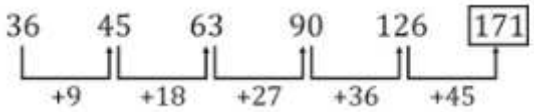
Pattern is $+2^2,+3^2,+4^2,+5^2$…….

$? = 91 + 7^2 = 140$

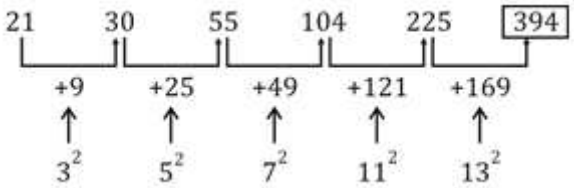
2. D



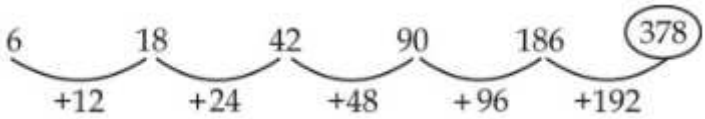
3. A



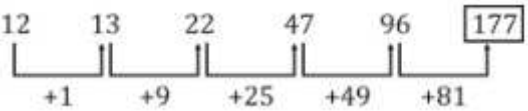
4. D



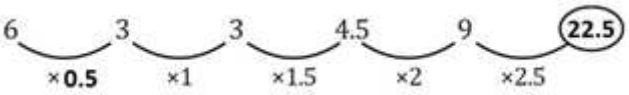
5. E



6. A



7. C



8. B

Sol. Pattern is +6, +11, +16, +21, +26

$\therefore ? = 70 + 26$

$= 96$

9. B

Sol. Pattern is ÷ 2, ÷ 2, ÷ 2, ÷ 2, ÷ 2

$\therefore ? = 460 \div 2$

$= 230$

10. B

Series is ×4, ×4, ×4, ×4, ×4…….

$= 768 \times 4$

$= 3072$

Solution (11-20)

11. D

4* .5 = 2

2*1 = 2

2*2 = 4

4*4 = 16

16*8 = 128

12. B

$1+1^3 = 2$

$2+2^3 = 10$

$10+3^3 = 37$

$37+4^3 = 101$

$101+5^3 = 226$

$226+6^3 = 442$

13. D

2*1 = 2

2*1.5 = 3

3*2 = 6

6*2.5 = 15

15*3 = 45

45*3.5 = 157.5

157.5*4 = 630

14. C

3 × 2 = 6

6 × 3 = 18

18 × 4 = 72

72 × 5 = 360

360 × 6 = 2160

Answer: 360

15. A

6 × 0.5 = 3

3 × 1 = 3

3 × 1.5 = 4.5

4.5 × 2 = 9

9 × 2.5 = 22.5

16. A

2*2 =4

4*3 =12

12*4 =48

48*5 =240

240*6 =1440

Answer: 240

17. D

339 + 2^1 = 341

341 + 2^2 = 345

345 + 2^3 = 353

353 + 2^4 = 369

Answer: 341

18. A

24 x 2=48

48×3=144

144×4=576

576×5=2880

2880×6= 17280

19. E

5×1=5

5×3=15

15×5=75

75×7=525

525*9=4725

4725×11=51975

20. E

Add square of prime no. in each step

4,9,25,49,121,so on

Solution (21-30)

21. A

7+6=13

13+11=24

24+16=40

40+21=61

61+26=87

22. B

1200 – 81 = 1119

1119 – 64 = 1055

1055 – 49 = 1006

1006 – 36 = 970

23. D

2561- 121 = 2440

2440 – 81 = 2359

2359 – 49 =2310

2310 – 25 = 2285

2285 – 9 = 2276

24. D

9+6 = 15

15+12 = 27

27+18 = 45

45+24= 69

69+30= 99

99+36= 135

25. A

20 – 1 = 19

19 + 1 = 20

20 – 2 = 18

18 + 2 = 20

20 – 3=17

26. C

87+22 = 109

109+33 = 142

142+44 = 186

186+55 = 241

27. A

210*2 = 420

420*2.5 = 1050

1050*3 = 3150

3150*3.5 = 11025

28. B

1011 – 31 = 980

980 – 29 = 951

951 – 27 = 924

924 – 25 = 899

899 – 23 = 876

29. A

57+2.5 = 59.5

59.5 – 5 = 54.5

54.5+7.5 = 62

62-10 = 52

52+12.5 = 64.5

30. D

54+1 = 55

55+8 = 63

63+27 = 90

90+64 = 154

154+125 = 279

Solution (31-40)

31. C

12*2, 24+3, 27*2, 54+3, 57*2

32. A

3+5=8

8+7=15

15+11=26

26+13=39

33. B

8×0.5, 4×1, 4×1.5, 6×2, 12×2.5

Answer- 30

34. C

3×.5= 1.5

1.5×1=1.5

1.5×1.5=2.25

2.25×2 = 4.5

4.5×2.5=11.25.

35. D

Difference of Prime No: 5, 7, 11, 13, 15, 17

Answer: 62

36. A

14×0.5=7, 7×1=7, 7×2=14, 14×4=56, 56×8=448

37. B

12 x 0.5 = 6

6 x 1 = 6

6 x 2 = 12

12 x 4 = 48

48 x 8 = 384

38. C

Difference $+1^2$, $+2^2$, $+3^2$ ……

39. D

Difference of 12,10,8,6,

40. D

Difference of 3^5,3^4,3^3,3^2, 3^1

Answer is 462

Solution (41-50)

41. B

×1.5, ×2, ×2.5, ×3, ×3.5

Answer is- 630

42. B

Difference= $+1^2$, -2^2, $+3^2$, -4^2, $+5^2$

Answer is = 31

43. A

×2, ×4, ×6, ×8, ×10

Answer- 11520

44. A

Difference 1, 4, 9, 16, 25

Answer: 66

45. B

12×1=12

12×2=24

24×3=72

72×4=288

288×5=1440

Answer- 1440

46. C

11×1=11

11×2=22

22×3=66

66×4=264

264×5 = 1320

47. D

1×3=3

3×5=15

15×7=105

105×9= 945

Answer is: 945

48. A

120÷5=24

24÷4=6

6÷3=2

2÷2=1

1÷1=1

49. E

7+3=10

10+6=16

16+12=28

28+24=52

52+48=100

50. C

9+4=13

13+8=21

21+16=37

37+32=69

69+64 = 133

Answer: 69

Directions (1-10): Find the wrong term which does not follow the pattern that other numbers follow in the following number series:

1. 439 778 1456 2812 5624

a. 439

b. 778

c. 1456

d. 2812

e. 5624

2.729 1331 2497 3375 4913

a. 729

b. 1331

c. 3375

d. 2497

e. 4913

3. 1 3 10 36 152 760 4632

a. 3

b. 36

c. 4632

d. 760

e. None of these

4. 4 5 9 29 111 556 3335

a. 5

b. 9

c. 29

d. 111

e. 556

5. 9 21 45 101 211 433 879

a. 21

b. 45

c. 211

d. 433

e. 101

6. 1 1 2 6 24 96 720

a. 720

b. 96

c. 24

d. 6

e. 2

7. 20480 5120 1280 320 100 20 5

a. 5120

b. 320

c. 1280

d. 100

e. 5

8. 50, 51, 47, 56, 45, 65, 29

a. 47

b.29

c. 51

d. 65

e. None of these

9. 9,12, 30, 99, 408, 2050, 12348

a. 12

b. 30

c. 2050

d. 408

e. None of these

10. 11, 12, 26, 81, 320, 1645

a. 11

b. 12

c. 81

d. 320

e. None of these

Directions (11-20): Find the wrong term which does not follow the pattern that other numbers follow in the following number series:

11. 12, 6.8, 7.5, 12.75, 27.5 , 71.25

a. 12

b. 27.5

c. 7.5

d.1 2.75

e. 6.8

12. 84, 138, 192, 270, 348, 434

a. 192

b. 138

c. 84

d. 348

e. 434

13. 1527, 1185, 985, 865, 823, 817

a. 985

b. 865

c. 823

d. 817

e. 1185

14. 71, 90, 128, 185, 261, 365

a. 365

b. 128

c. 185

d. 90

e. 261

15.4, 12, 42, 196, 1005, 6066, 42511

a. 12

b. 42

c. 196

d. 1005

e. 6066

16. 0, 1, 9, 36, 99, 225, 441

a. 9

b. 36

c. 99

d. 225

e. 441

17. 45, 131, 228, 338, 466, 619, 800

a. 131

b. 466

c. 619

d. 45

e. 800

18. 33, 38, 45, 54, 65, 80

a. 45

b. 80

c. 65

d. 54

e. 38

19. 5, 55, 495, 3465, 17455, 51975

a. 495

b. 17455

c. 3465

d. 55

e. 51975

20. 25, 128, 518, 1553, 3112, 3119

a. 518

b. 1553

c. 128

d. 3119

e. 3112

Directions (21-30): Find the wrong term which does not follow the pattern that other numbers follow in the following number series:

21. 26, 34, 61, 125, 254, 466

a. 61

b. 254

c. 34

d. 466

e. 26

22. 13, 15, 18, 27, 43, 75, 139

a. 15

b. 18

c. 27

d. 43

e. 75

23. 34, 71, 97, 110, 124, 129, 131

a. 71

b. 97

c. 110

d. 124

e. 129

24.67, 90, 192, 417, 817, 1442

a. 417

b. 817

c. 90

d. 1442

e. 192

25. 11, 5, 4, 4.5, 7, 16, 42

a. 5

b. 4

c. 4.5

d. 7

e. 16

26. 2, 2, 5, 9, 22, 60

a. 2

b. 9

c. 60

d. 5

e. 22

27. 7, 9, 16, 25, 41, 65, 107, 173

a. 16

b. 7

c. 9

d. 41

e. 65

28. 13860, 6930, 2312, 462, 66, 6

a. 66

b. 2312

c. 6

d. 6930

e. 13860

29. 32, 25.6 ,20.48, 16.384, 13.1072, 12.48576

a. 20.48

b. 16.384

c. 12.48576

d. 25.6

e. 32

30. 1, 3, 10, 36, 152, 760, 4632

a. 3

b. 36

c. 4632

d. 760

e. 152

Directions (31-40): Find the wrong term which does not follow the pattern that other numbers follow in the following number series:

31.5531 5506 5425 5304 5135 4910 4621

a. 5531

b. 5425

c. 4621

d. 5135

e. 5506

32. 2, 3, 10, 39, 172, 884, 5346

a. 884

b. 3

c. 172

d. 39

e. 5346

33. 157.5, 45, 15, 6, 3, 2, 1

a. 1

b. 2

c. 6

d. 157.5

e. 45

34. 4, 3, 9, 34, 96, 219, 435

a. 4

b. 9

c. 34

d. 435

e. 219

35. 22 , 33, 66, 99, 121, 279, 594

a. 33

b. 121

c. 279

d.594

e. 66

36. 560 272 132 62 28 12

a. 272

b. 132

c. 62

d. 28

e. 12

37. 1 8 27 64 124 216 343

a. 8

b. 27

c. 64

d. 124

e. 216

38. 582 605 588 611 634 617 600

a. 634

b. 611

c. 605

d. 600

e. 582

39. 157.5, 45, 15, 6, 3, 2, 1

a. 1

b. 2

c. 6

d. 157.5

e. 45

40. 4.5, 3, 12, 25.5, 27, 40.5, 49.5, 48.5

a. 48.5

b. 12

c. 25.5

d. 27

e. 49.5

Directions (41-50): Find the wrong term which does not follow the pattern that other numbers follow in the following number series:

41. 80 119 166 221 223

a. 80

b. 119

c. 166

d. 192

e. 223

42. 90, 135, 286, 750, 2160, 6405, 19155

a. 90

b. 750

c. 6405

d. 286

e. 2160

43. 1, 8, 66, 460, 2758, 13785, 55146

a. 460

b. 2758

c. 66

d. 8

e. 55146

44. 8 8.5 11.5 14 17

a. 8

b. 8.5

c. 11.5

d. 14

e. 17

45. 22, 37, 52, 67, 84, 97

a. 52

b. 84

c. 97

d. 67

e. None of these

46. 3 9 23 99 479 2881 20159

a. 9

b. 23

c. 99

d. 479

e. 2881

47. 16 19 21 30 46 71 107

a. 19

b. 21

c. 30

d. 46

e. 71

48.7, 8, 18, 57, 228, 1165, 6996

a. 228

b. 57

c. 1165

d. 8

e. 18

49. 190 166 145 128 112 100 91

a. 100

b. 91

c. 128

d. 112

e. 145

50. 5 33 225 1345 6724 26881

a. 225

b. 6724

c. 26881

d. 33

e. 225

Answer Key with Solution

Solution (1-10)

1. E

The series is +339, +678, +1356, +2712, …

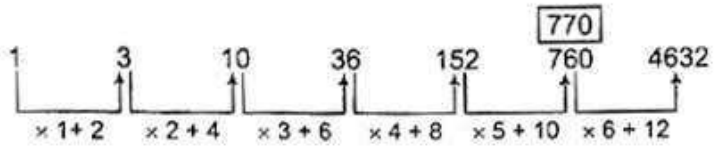
Hence, there should be 5524 in place of 5624.

2. D

The series is 9^3, 11^3, 13^3, 15^3, 17^3, …

Hence, there should be 2197 in place of 2497.

3. D



From above, we can say that 760 is wrong in the givenseries. 770 should come in place of 760.

4. C

×1+1, ×2-1, ×3+1, ×4-1….28 should be there instead of 29

5. B

The series is x2+3, x2+5, x2+7, x2+9, x2+11…

Hence, 45 should be replaced by 47.

6. B

1 × 1 = 1

1 × 2 = 2

2 × 3 = 6

6 × 4 = 24

24 × 5 = 120 not 96

120 × 6= 720

96 is wrong

7. D

Dividing previous number by 4

8. A

50 + 1^2 = 51

51 – 2^2 = 47

47 + 3^2 = 56

56 – 4^2 = 40

40 + 5^2 = 65

65 – 6^2 = 29

9. C

(9×1) + 3 = 12

(12×2) + 6 = 30

(30×3) + 9 = 99

(99×4) + 12 = 408

(408×5) + 15 = 2055

(2055×6) + 18 = 12348

10. D

The series is

11*1 + 1 = 12

12*2 + 2 = 26

26*3 + 3 = 81

81*4 + 4 = 328

328*5 + 5 = 1645

so 320 is wrong

Solution (11-20)

11. E

The series is

12 x 0.5 + 0.5 = 6.5,

6.5 x 1 + 1= 7.5,

7.5 x 1.5 + 1.5 = 12.75,

12.75 x 2 + 2 = 27.5,

27.5 x 2.5 + 2.5 = 71.25

12. A

The series is

21 x 4 = 84,

23 x 6 = 138,

25 x 8= 200,

27 x 10 = 270,

29 x 12 = 348,

31 x 14 = 434, …

Hence there should be 200 in place, of 192.

Therefore the wrong number is 192.

13. A

The series is

1527 — (19^2 -19) = 1185,

1185 — (15^2 — 15) =975,

975— (11^2— 11) = 865,

865 — (7^2— 7) = 823,

823 — (3^2 — 3) = 817

There should be 975 in place of 985.

14. A

The series is

71 + 19 = 90, 90 + 38 = .128, 128 + 57 = 185, 185 + 76 = 261, 261 + 95 = 356 Hence there should be 356 in place of 365.

15. B

4, 12, 42, 196, 1005, 6066, 42511

$4 \times 2+(2)^2 = 12$

$12\times 3+(3)^2 = 45$

$45\times 4+(4)^2 = 196$

$196\times 5+(5)^2 = 1005$

$1005\times 6+(6)^2 = 6066$

$6066\times 7+(7)^2 = 42511$

Hence, 42 is the wrong number

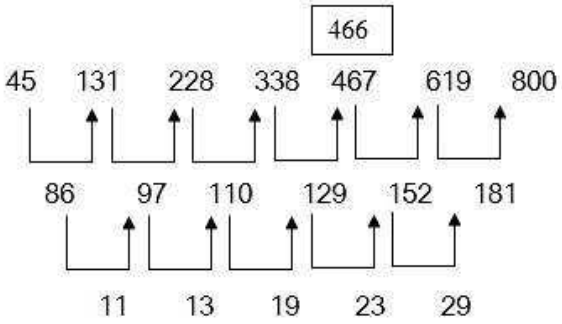
16. C

The difference are

0 1 9 36 99 225 441

0^2, 1^2 ,3^2, 6^2 ,10^2 ,15^2, 21^2

17. B



11, 13, 19, 23 and 29 are the prime numbers. Hence, 466 is the wrong number.

18. B

33+5=38

38+7=45

45+9=54

54+11=65

65+13=80(78).

19. B

5*11=55

55*9=495

495*7=3465

3465*5=17455(17325)

17325*3=51975.

20. A

25*5+3=128

128*4+4=518(516)

516*3+5=1553

1553*2+6=3112

3112*1+7=3119.

Solution (21-30)

21. B

26+2^3=34

34+3^3=61

61+4^3=125

125+5^3=254(250)

250+6^3=466.

22. B

$+2^1, +2^2, +2^3, +2^4, +2^5, +2^6$

23. C

$+ (6^2+1), + (5^2+1), + (4^2+1), + (3^2+1), +(2^2+1), + (1^2+1)$

24. C

wrong =90

67 + (25*1) = 92

92 + (25*4)=192

192+(25*9)=417

417+(25*16)=817

817+(25*25)=1442

25. E

*0.5 – 0.5, * 1 – 1, *1.5 – 1.5, *2 – 2, *2.5 – 2.5, *3 – 3

26. D

wrong= 5

2*0.5+1=2

2*1+2=4

4*1.5+3=9

9*2+4=22

22*2.5+5=60

27. E

Wrong = 65

7+9=16

9+16=25

16+25=41

25+41=66

41+66=107

107+66=173

28. B

wrong =2312

13860/2=6930

6930/3=2310

2310/5=462

462/7=66

66/11=6

29. C

wrong= 12.48576

32*0.8=25.6

25.6*0.8=20.48

20.48*0.8=16.384

16.384*0.8=13.1072

13.1072*0.8=10.48576

30. D

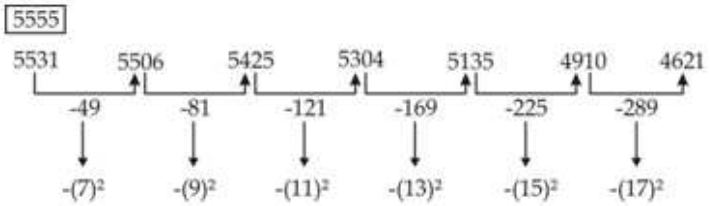
The number should be 770 In place of 760.

×1 +2, ×2 +4, ×3 +6, ×4 + 8, ×5 +10, ×6 + 12, …

Solution (31-40)

31. A

Solution: The number should be 5555 in place of 5531.



32. A

wrong=884

2*1+1=3

3*2+4=10

10*3+9=39

39*4+16=172

172*5+25=885

885*6+36=5346

33. A

Solution: The number should be 2 in place of 1.

Divided by 3.5, 3, 2.5, 2, 1.5, 1, .

34. D

The series is 0^2+ 4, 1^2+2, 3^2+0, 6^2-2, 10^2-4, 15^2- 6,21^2 – 8…

Hence, 435 should be replaced with 433

35. C

279 is not a multiple of 11.

36. A

The series is ÷2 – 6; ÷2 – 5; ÷2 – 4 ..and so on.

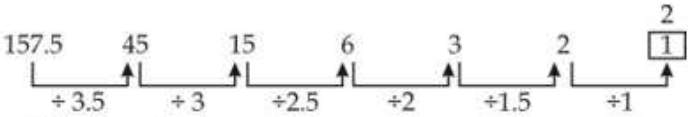
37. D

The numbers are 1^3, 2^3, 3^3, 4^3 etc. So, 124 is wrong; it must have been 5^3 i.e., 125.

38. A

Alternatively 23 is added and 17 is subtracted

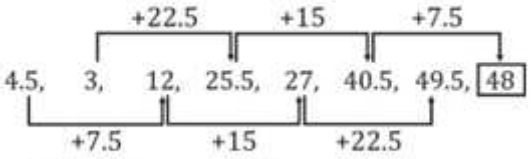
39. A



∴ 1 is wrong term

40. A

Series is



∴ Wrong term = 48.5

Solution (41-50)

41. E

The series is 9^2 – 1, 11^2 – 2, 13^2 – 3, 15^2 – 4, 17^2 – 5,

Hence, there should be 284 in place of 223.

42. D

The number series should be 285 in the place of 286.

The series is (90-45) × 3, (135-40) × 3, (285-35) × 3, (750-30) × 3, (2160-25) × 3,…

43. A

1 8 66 460 2758 13785 55146

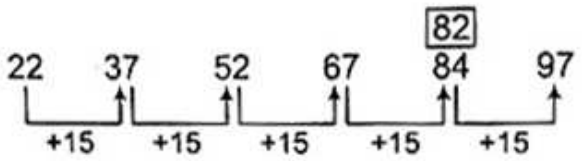
Here $1 \times 9 - 1 = 8$; $8 \times 8 + 2 = 66$; $66 \times 7 - 3 = 459$; $459 \times 6 + 4 = 2758$; $2758 \times 5 - 5 = 13785$; $13785 \times 4 + 6 = 55146$

44. B

The series is $8 + 1.5 = 9.5$, $9.5 + 2 = 11.5$, $11.5 + 2.5 = 14$, $14 + 3 = 17$

Hence, there should be 9.5 in place of 8.5.

45. B



So, 84 is the incorrect term, it should be 82.

46. C

$3 \times 2 + 3 = 9$; $9 \times 3 - 4 = 23$; $23 \times 4 + 5 = 97$; $97 \times 5 - 6 = 479$…

47. A

The series is based on the following pattern:

$107 - 71 = 36 = 6^2$

$71 - 46 = 25 = 5^2$

$46 - 30 = 16 = 4^2$

$30 - 21 = 9 = 3^2$

$21 - 19 = 2 \neq 2^2$

19 I should be replaced by 17 for which $21 - 17 = 4$

48. A

$7 \times 1 + 1 = 8$

$8 \times 2 + 2 = 18$

$18 \times 3 + 3 = 57$

$57 \times 4 + 4 = 232$ not 228

$232 \times 5 + 5 = 1165$

$1165 \times 6 + 6 = 6996$

228 is wrong.

49. C

Subtracting 24, 21, 18, 15, 12.

50. B

The series is

5 x 8 – 7 = 33,

33 x 7 – 6 = 225,

225 x 6 – 5 = 1345,

1345 x 5 – 4 = 6721,

6721 x 4 – 3 = 26881,

Therefore, there should be 6721 in place of 6724.

Directions (1-10): What will come in place of question mark (?) in the following questions?

1. 2, 4, 11, 37, 153, ?

a. 771

b. 887

c. 556

d. 654

e. None of these

2. 6, 6, 8, 14, 26, ?

a. 75

b. 46

c. 34

d. 29

e. None of these

3. 3, 5, 13, 43, 177, ?

a. 853

b. 846

c. 891

d. 834

e. None of these

4. 3, 9, 22, 42, 69, ?

a. 100

b. 101

c. 102

d. 103

e. None of these

5. 5, 5, 7, 13, 25, ?

a. 45

b. 67

c. 78

d. 43

e. None of these

6. 5, 11, 22, 43, 79, ?

a. 145

b. 135

c. 125

d. 155

e. None of these

7. 1, 3, 9, 31, 129, ?

a. 734

b. 378

c. 651

d. 782

e. None of these

8. 2, 4, 11, 37, 153, ?

a. 483

b. 347
c. 739
d. 771
e. None of these

9. 4, 3, 4.5, 8.75, 20, ?

a. 53
b. 73
c. 93
d. 75
e. None of these

10. 6, 4, 5, 11, 39, ?

a. 155
b. 189
c. 149
d. 235
e. None of these

Directions (11-20): What will come in place of question mark (?) in the following questions?

11. 8, 6, 9, 23, 87 ?

a. 143
b. 289
c. 343
d. 987
e. None of these

12. 3, 4, 10, 33, 136, ?

a. 844
b. 782
c. 983
d. 685
e. None of these

13. 9, 5, 6, 10.5, 23 ?

a. 50
b. 65
c. 70
d. 55
e. 60

14. 2, 17, 89, 359, 1079, ?

a. 2143
b. 2152
c. 2169
d. 2159
e. 2148

15. 7, 4.5 ,5.5, 12, 49,?

a.393
b.351
c.362
d.375
e.364

16. 1, 20, 58, 134, 286, ?

a.600
b.590
c.580
d.570
e.560

17.4, 5, 6, 14, ?, 100.5

a. 32.5
b. 47.5

c. 67.5
d. 37.5
e. 27.5

18.2, 2, 7, ?, 87, 342

a.21
b.26
c.23
d.24
e.22

19. 2, 5, 17, 50, 122, ?

a.252
b.258
c.257
d.225
e.242

20. 2, 9, 39, 161, ?, 2613

a.675
b.670
c.665
d.651
e.655

Directions (21-30): What will come in place of question mark (?) in the following questions?

21. 5, 6, 10, 33, 128, ?

a.645
b.680
c.650
d.690
e.620

22. 1, 2, 6, 17, ?, 157.5

a.40.5
b.42.5
c.49.5
d.51.5
e.50.5

23. 2, 2, 12, 36, 104, ?

a.232
b.221
c.223
d.224
e.242

24. 6, 8, 12, 42, 160, ?

a.870
b.840
c.850
d.810
e.820

25. 8, 9, 15, 32, ?, 250.5

a. 82.5
b. 47.5
c. 62.5
d. 37.5
e. 64.5

26. 2, 4, 7, ?, 87, 344

a.38
b.24
c.56

d.44

e.62

27. 2, 5, 9, 42, 98, ?

a.233

b.218

c.221

d.225

e.242

28. 4, 6, 8, 30, 112, ?

a.540

b.580

c.550

d.590

e.570

29. 15, 5, 4.5, 5.8.7.9, ?

a.9.6

b.11.42

c.12.23

d.10.74

e.None of these

30.211, 90, 171, 122, 147, 138, ?

a.152

b.176

c.139

d.180

e.None of these

Directions (31-40): What will come in place of question mark (?) in the following questions?

31. 37, 54, 88, ?, 207

a.139

b.213

c.193

d.391

e.None of these

32. 23, 40, 64, 96, 137, ?

a. 197

b. 188

c. 183

d. 192

e. 201

33. 53, 58, 75, 112, 177, ?

a. 261

b. 275

c. 278

d. 285

e. 317

34. ?, 32, 51, 74, 103, 134

a. 7

b. 15

c. 13

d. 17

e. 19

35. 95, 103, 96, 104, ?

a. 102

b. 98

c. 100
d. 97
e. 95

36. 13, 27, 55, 97, 153, ?

a. 243
b. 265
c. 215
d. 223
e. 232

37. 15, 30, 10, 40, 8, ?

a. 48
b. 52
c. 64
d. 72
e. 32

38. 2, 6, 21, 88, 445, ?

a. 2667
b. 2676
c. 2230
d. 3122
e. 3568

39. 1028, 1012, 980, 932, 868, ?

a. 748
b. 698
c. 798
d. 788
e. 688

40. 3, 4, 10, 33, 136, ?

a. 685
b. 695
c. 775
d. 705
e. 675

Directions (41-50): What will come in place of question mark (?) in the following questions?

41. 677, 785, 901, 1025, ? , 1297

a. 1162
b. 1157
c. 1297
d. 1264
e. 1257

42. 5, 7, 17, 55, 225, 1131, ?

a. 6973
b. 6379
c. 7639
d. 7369
e. 6793

43. 25, 30, 49, 56, 81, 90, ?, 132

a. 90
b. 72
c. 99
d. 121
e. 132

44. 6, 19, 71, 279, 1111, ?

a. 4439
b. 3439

c. 3454

d. 5439

e. 4349

45. 16, 17, 36, 111, 448, ?

a. 2240

b. 2245

c. 2694

d. 1796

e. 1865

46. 7, 12, 19, 30, 47, ?

a. 65

b. 79

c. 78

d. 67

e. 72

47. 24, 14, 16, 26, 54, ?

a. 132

b. 129

c. 137

d. 117

e. 144

48. 23, 25, 79, 401, 2815, ?

a. 25345

b. 25340

c. 25350

d. 25445

e. 25355

49.20, 6, 4.8, 5.92, 7.96, ?

a. 8.92

b. 9.96

c. 8.8

d. 10.776

e. 11.776

50.14, ?, 20, 12, 26, 15

a. 11

b. 7

c. 9

d. 13

e. None

Answer key with Solution

Solution (1-10)

1. A

(2×1)+2=4

(4×2)+3=11

(11×3)+4=37

(37×4)+5=153

(153×5)+6=771

Answer is- 771

2. B

6+0 = 6

6+2 = 8

8+6 = 14

14+12 = 26

26+20 = 46 or (difference will be 0,2,6,12,20)

3. C

3×1+2=5

5×2+3=13

13×3+4=43

43×4+5=177

177×5+6=891

4. D

3+6 = 9

9+13 = 22

22+20 = 42

42+27 = 69

69+34 = 103 or (difference of difference)

5. A

5+0=5

5+2=7

7+6=13

13+12=25

25+20=45 or (difference of difference)

6. A

Triple difference of 5, 10, 15, 20,

7. C

1×1+2, 3×2+3, 9×3+4, 31×4+5, 129×5+6

Answer- 651

8. D

2×1+2= 4

4×2+3= 11

11×3+4= 37

37×4+5 = 153

153×5+6 = 771

9. A

4*0.5+1= 3

3*1+1.5= 4.5

4.5*1.5+2=8.75

8.75*2+2.5= 20

20*2.5+3 = 53

Answer- 53

10. B

6×1-2=4, 4×2-3=5, 5×3-4=11, 11×4-5=39, 39×5-6=189

Solution (11-20)

11. C

Difference x1-2, x2-3, x3-4…

12. D

3×1+1, 4×2+2, 10×3+3, 33×4+4, 136×5+5

Answer is- 685

13. E

9 * 0.5 + 0.5 = 5

5 * 1 + 1 = 6

6 * 1.5 + 1.5 = 10.5

10.5 * 2 + 2 = 23

23 * 2.5 + 2.5 = 60

14. D

2 * 6 + 5 = 17

17 * 5 + 4 = 89

89 * 4 + 3 = 359

359 * 3 + 2 = 1079

1079 * 2 + 1 = 2159

15. A

7 × 0.5 + 1 = 4.5.

4.5 × 1 + 1 = 5.5.

5.5 × 2 + 1 = 12.

12 × 4 + 1 = 49.

49 × 8 + 1 = 393.

16. B

1 * 2 + 18 = 20

20 * 2 + 18 = 58

58 * 2 + 18 = 134

134 * 2 + 18 = 286

17. A

4 * 1 + 1 = 5

5 * 1.5 – 1.5= 6

6 * 2 + 2 = 14

14 * 2.5 – 2.5 = 32.5

32.5 * 3 + 3 = 100.5

18. E

2 + 1^2 – 1 = 2

2 + 2^2 + 1= 7

7 + 4^2 – 1= 22

19. C

2 + 1^3 + 2 = 5

5 + 2^3 + 4 = 17

17 + 3^3 + 6 = 50

50 + 4^3 + 8 = 122

20. D

2 * 4 + 1 = 9

9 * 4 + 3 = 39

39 * 4 + 5 = 161

161 * 4 + 7 = 651

651 * 4 + 9 = 2613

Solution (21-30)

21. A

5 * 1 + 1 = 6

6 * 2 – 2 = 10

10 * 3 + 3 = 33

33 * 4 – 4 = 128

128 * 5 + 5 = 645

22. C

1 * 1 + 1 = 2

2* 1.5 + 3 = 6

6 * 2 + 5 = 17

17 * 2.5 + 7 = 49.5

49.5 * 3 + 9 =157.5

23. D

$2 + 1^3 - 1 = 2$

$2 + 2^3 + 2 = 12$

$12 + 3^3 - 3 = 36$

$36 + 4^3 + 4 = 104$

24. D

6 * 1 + 2 = 8

8 * 2 – 4 = 12

12 * 3 + 6 = 42

42 * 4 – 8 = 160

160 * 5 + 10 = 810

25. A

8 * 1 + 1 = 9

9 * 1.5 + 1.5= 15

15 * 2 + 2 = 32

32 * 2.5 + 2.5 = 82.5

82.5 * 3 + 3 = 250.5

26. B

$2 + 1^2 + 1 = 4$

$4 + 2^2 - 1 = 7$

$7 + 4^2 + 1 = 24$

$24 + 8^2 - 1 = 87$

$87 + 16^2 + 1 = 344$

27. A

$2 + 1^3 + 2 = 5$

$5 + 2^3 - 4 = 9$

$9 + 3^3 + 6 = 42$

$42 + 4^3 - 8 = 98$

$98 + 5^3 + 10 = 233$

28. E

4 * 1 + 2 = 6

6 * 2 – 4 = 8

8 * 3 + 6 = 30

30 * 4 – 8 = 112

112 * 5 + 10 = 570

29. D

15*0.2 +2 = 5

5*0.3+3 = 4.5

4.5*0.4+4 = 5.8

5.8*0.5+5 =7.9

7.9*0.6+6 = 10.74

30. C

211-11^2 = 90

90+9^2 = 171

171-7^2 = 122

122+5^2 = 147

147-3^2 = 138

138+1^2= 139

Solution (31-40)

31. A

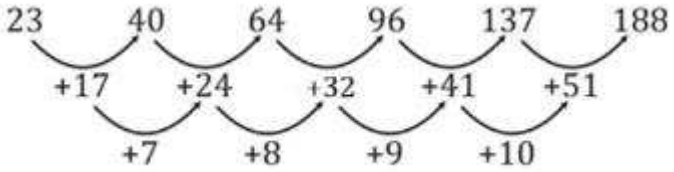
37+17 = 54

54+2*17 = 88

88+3*17 =139

139+4*17 = 207

32. B

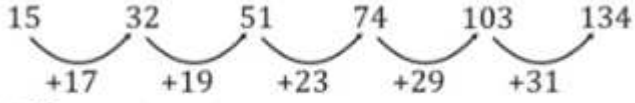


33. C

Pattern is $+(2^2+1), +(4^2+1), +(6^2+1), +(8^2+1), +(10^2+1)$

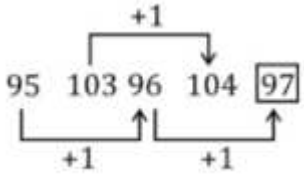
So, ? = 177 + 101 = 278

34. B



Difference is prime no.

35. D



36. D

Pattern is $+14 \times 1$, $+14 \times 2$, $+14 \times 3$,

$+14 \times 4, +14 \times 5$

$\therefore ? = 153 + 70$

$= 223$

37. A

Pattern is $\times 2, \div 3, \times 4, \div 5, \times 6$

$\therefore ? = 8 \times 6 = 48$

38. B

$2 \times 2 + 2 = 6$

$6 \times 3 + 3 = 21$

$21 \times 4 + 4 = 88$

$88 \times 5 + 5 = 445$

$445 \times 6 + 6 = 2676$

39. D

Pattern is:

$1028 - 1 \times 16 = 1012$

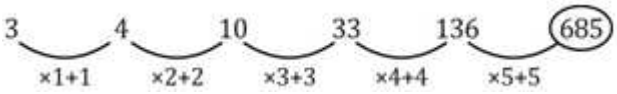
$1012 - 2 \times 16 = 980$

$980 - 3 \times 16 = 932$

$932 - 4 \times 16 = 868$

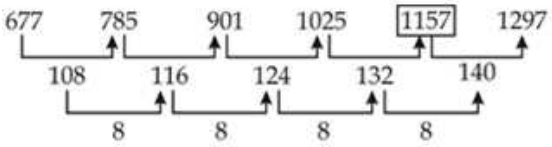
$868 - 5 \times 16 = 788$

40. A



Solution (41-50)

41. B

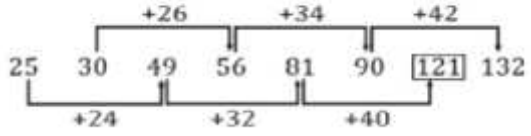


42. E

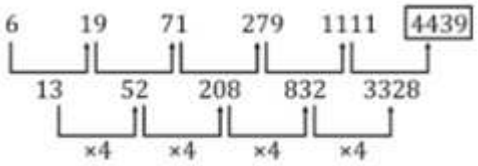
Series is as, ×1+2, ×2+3, ×3+4, ×4+5, ×5+6, ×6+7

? = 1131 × 6 + 7 = 6793

43. D



44. A



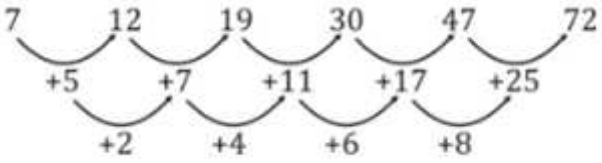
45. B

Pattern is ×1+1, ×2+2, ×3+3, ×4+4, ×5+5

∴ ? = 448 × 5 + 5

= 2245

46. E



47. C

Pattern is

24 × 0.5 + 2 = 14

14 × 1 + 2 = 16

16 × 1.5 + 2 = 26

26 × 2 + 2 = 54

54 × 2.5 + 2 = 137

48. A

Patter is

23 × 1 + 2 = 25

25 × 3 + 4 = 79

79 × 5 + 6 = 401

401× 7 + 8 = 2815

2815 × 9 + 10 = 25345

49.D

20*0.2 +2 = 5

6*0.3+3 = 4.8

4.8*0.4+4 = 5.92

5.92*0.5+5 =7.96

7.96*0.6+6 = 10.776.

50. C

14/2+2=9

9*2+2=20

20/2+2=12

12*2+2=26

26/2+2=15

1. If 20% of a = b, then b% of 20 is the same as?

a. 4% of a

b. 6% of a

c. 8% of a

d. 10% of a

e. None of these

2. The population of a town increased from 1,75,000 to 2,62,500 in a decade. The average percent increase of population per year is?

a. 4.37%

b. 5%

c. 6%

d. 8.75%

e. None of these

3. Two friends, Akash & Beenu had some candies each. One of them had 15 candies more than the other. The candy with Akash was 60% of the total candies with them. How many candies did each have?

a. 40, 25

b. 47, 32

c. 45, 30

d. 49, 34

e. None of these

4. A fruit seller had some oranges. He sells 30% oranges and still has 140 mangoes. Originally, he had?

a. 288 oranges

b. 300 oranges

c. 672 oranges

d. 200 oranges

e. None of these

5. A student has to obtain 33% of the total marks to pass. He got 125 marks and failed by 40 marks. The maximum marks are?

a. 500

b. 600

c. 800

d. 1000

e. None of these

6.A vessel contains milk and water in which 20% water. 20 litres of mixture was taken out and replaced by water and the ratio becomes 12:13. Find the initial quantity of milk in the vessel?

a. 40 litres

b. 30 litres

c. 50 litres

d. 56 litres

e. 60 litres

7. A container contains pure milk. From these 4 litres of milk taken out and replaced by water. This process is repeated for one more time and the remaining milk in the container is 12.8 litres. What is the initial quantity of milk in the container?

a. 15 litres

b. 20 litres

c. 25 litres

d. 24 litres

e. 32 litres

8. Two numbers A and B are such that the sum of 5% of A and 4% of B is two-third of the sum of 6% of A and 8% of B. Find the ratio of A : B?

a. 2 : 3

b. 1 : 1

c. 3 : 4

d. 4 : 3

e. None of these

9. In an election between two candidates, one got 55% of the total valid votes, 20% of the votes were invalid. If the total number of votes was 7500, the number of valid votes that the other candidate got, was:

a. 2700

b. 2900

c. 3000

d. 3100

e. None of these

10. Two students appeared at an examination. One of them secured 9 marks more than the other and his marks was 56% of the sum of their marks. The marks obtained by them are:

a. 39, 30

b. 41, 32

c. 42, 33

d. 43, 34

e. None of these

11. A fruit seller had some apples. He sells 40% apples and still has 420 apples. Originally, he had?

a. 588 apples

b. 600 apples

c. 672 apples

d. 700 apples

e. None of these

12.If the price of a book is first decreased by 25% and then increased by 20%, then the net change in the price will be?

a. 10

b. 20

c. 30

d. 40

e. None of these

13. The population of a town was 1,60,000 three years ago, If it increased by 3%, 2.5% and 5% respectively in the last three years, then the present population in?

a. 155679

b. 167890

c. 179890

d. 177366

e. None of these

14. If x is 80% of y, then what percent of 2x is y?

a.65.5 %

b.64.5 %

c. 63.5 %

d.62.5 %

e. None of these

15. Gaurav spends 30% of his monthly income on food articles, 40% of the remaining on conveyance and clothes and saves 50% of the remaining. If his monthly salary is Rs. 18,400, how much money does he save every month?

a. 3864

b. 4903

c. 5849

d. 6789

e. None of these

16. If 75% of a number is added to 75, then the result is the number itself. The number is?

a.100

b.200

c. 300

d.400

e. None of these

17. Three candidates, Ajay, Bijoy & Chandu contested an election and received 1800, 3300 and votes 3900 respectively. What percent of the total votes did A get?

a. 20%

b. 40%

c. 45%

d. 70%

e. None of these

18. A Stationery seller had some Pens, Sharpeners, Erasers & Pencils. He sells 65% of the total units and still has 175 units. Originally, he had?

a. 588 units

b. 400 units

c. 272 units

d. 500 units

e. None of these

19.The total population of a village increased from 1,80,00 to 22, 500 in a decade. The average percentage increase of population per year of that village is?

a. 2.37%

b. 2.5%

c. 3. 6%

d. 6.75%

e. None of these

20. The difference of two numbers is 20% of the larger number, if the smaller number is 20, then the larger number is?

a.15

b. 25

c. 35

d.45

e. None of these

21.The difference between a number and its two-fifth is 510. What is 10% of that number?

a. 75

b. 85

c. 95

d. 105

e. None of these

22. A trader mixes two types of rice varieties with a cost of Rs.36 and Rs.42. If he sells the mixture of Rs.44 at 10% profit, in what ratio he mixes two types of rice varieties?

a. 1:2

b. 1:3

c. 2:3

d. 2:5

e. 3:2

23.Kay required Rs. 800 for paying her fees. She borrowed 20 % from her brother and 30 % of the remaining was funded by her mother. In her bank she had Rs. 200. How much more does she need (in Rs.)?

a. 248

b. 336

c. 148

d. 236

e. None of these

24.A teacher says, 15% of first number is equal to 21% of the second number. So, 18% of first number will be what percent of second number?

a. 18%

b. 20%

c. 24%

d. 25.2%

e. None of these

25. Two candidates contested an election. The losing candidate got 40% votes and lost by 2000 votes. Find the total number of votes cast?

a. 5000

b. 8000

c. 10000

d. 20000

e. None of these

26.Present population of a city is 60,000. It increases at the rate of 10%. Find the population of the city after 4 years?

a. 65,550

b. 80,500

c. 87,846

d. 88,550

e. None of these

27. If the numerator of a fraction is increased by 150% and the denominator of the fraction is increased by 350%, the resultant fraction is 25/51. What is the original fraction?

a.31/25

b. 15/17

c. 14/25

d. 11/16

e. None of these

28. In an examination, 34% of the students failed in Mathematics and 42% faiied in English. If 20% of the students failed in both the subjects, then the percentage of students who passed in both the subjects was?

a. 34 %

b. 44 %

c. 54 %

d.64 %

e. None of these

29. If 15% of x = 20% of y, then x:y is ___?

a. 4:3

b. 5:4

c. 4:5

d. 3:4

e. None of these

30. Abhinav scores 80% in physics and 66% in chemistry and the maximum marks of both the papers are 100. What percent does he score in maths which is of 200 marks, if he scores 80% marks in all the three subjects?

a.74%

b.84%

c. 87%

d.83%

e. None of these

31.The difference between two numbers is 1550. If 8 % of one number is 10 % of the other number, then find the two numbers?

a. 4973, 6523

b. 5450, 7000

c. 6200, 7750

d. 6500, 4950

e. None of these

32. How many kg of rice variety 1 costing Rs.48/kg should a shopkeeper mix with 20 kg of rice variety 2 costing Rs.56 per kg so that he makes a profit of 20% on selling the mixture at Rs.62.4/kg?

a. 10 kg

b. 15 kg

c. 12 kg

d. 20 kg

e. 24 kg

33. The price of the article is reduced by 25% but the daily sale of the article is increased by 30%. Find the net effect of the daily sell receipt?

a. 2.5% decrease

b. 3% increase

c. 1.5% decrease

d. 2.5% increase

e. None of these

34.80% of a smaller is 4 less than 40% of larger number. The larger number is 85 greater than the smaller one. What is the sum of these two numbers?

a. 180
b. 220
c. 235
d. 200
e. None of these

35. Two-fifth of one-third of three seventh of a number is 15.What is 40% of that number?

a.501
b.105
c.525
d.150
e. None of these

36. The length and breadth of a rectangle are increased by 20% and 30%.The area of the resulting rectangle exceeds the area of the original rectangle?

a.50%
b.65%
c.56%
d.156%
e. None of these

37. Sugar contain 5% water .What quantity of pure Sugar should be added to 10 litres of water to reduce this to 2%?

a.5lit
b.6lit
c.10lit
d.15lit
e. None of these

38. In an election between 2 candidates, Candidate who gets 40% of the total vote defeated by 15000.The no of votes polled by winner

a.10000
b.45000
c.30000
d.6000
e. None of these

39. If the price of petrol increases by 20% and Novena intends to spend only an additional 10% on petrol, by how much percent will she reduce the quantity of petrol purchased?

a. 8%
b. 7 ¼%
c. 8 1/3%
d. 9%
e. None of these

40. A man spends 20% of his income on food, 15% on children's education 25% on shopping ,10% on house rent and saves the remaining. What is his income?

a. Rs 25000
b. Rs18000
c. Rs23000
d. Rs30000
e. None of these

41.A spends his money from his saving in different way that is he spends 35% on hotel,20% on food and 25% on purchase and after that all expenditure he saved 7200.Find the how much he spent on Purchase?

a. Rs9000
b. Rs8500
c. Rs7600
d. Rs9200
e. None of these

42.In an election a person wins over another one by a marginal difference of 680 votes which 17% of total votes. In election 15% votes are invalid. Find the valid votes?
a. 3500
b. 4100
c. 3400
d. can't be determined
e. None of these

43. The price of sugar is reduced by 3%.How many kg of sugar can now be bought for the money which was sufficient to buy 50kg of rice earlier ?
a. 50kg
b. 55kg
c. 51.5kg
d. 56kg
e. None of these

44. Fresh fruits contains 70% of water and dry fruits contain 20% of water.How much dry fruit can be obtained from 100kg of fresh fruits ?
a. 35
b. 37
c. 37.5
d. 40
e. None of these

45. If 25% of four-fifth of 30% of a number is 301.5, what is the number?
a. 4820
b. 5025
c. 5120
d. 5335
e. None of these

46. A reduction of 20% percent in the price of rice enables a housewife to buy 5 kg more for rupees 1200. The reduced price per kg of rice?
a. 36
b. 45
c. 48
d. 60
e. None of these

47. A got 30% of the maximum marks in an examination and failed by 10 marks. However, B who took the same examination got 40% of the total marks and got 15 marks more than the passing marks. What were the passing marks in the examination?
a. 65
b. 75
c. 80
d. 90
e. None of these

48. What is the percentage change in the result when we add 45 to a certain number x, instead of subtracting 45 from the same number x?

a. 8

b. 15

c. 10

d. Cannot be determined

e. None of these

49. If the price of an article is increased by 15%, then by how much the household should decrease their consumption so as to keep his expenditure same?

a.13(1/23)%

b.13(2/23)%

c.11(1/23)%

d.11(2/23)%

e.None of these

50.Out of total monthly salary of Mahesh, he spends 25% of his monthly salary on Rent and 20 % on travelling expenses. 40 % of the remaining monthly salary for food and while the remaining salary is saved which is equal to Rs. 16500, then find his monthly salary?

a. Rs. 45000

b. Rs. 50000

c. Rs. 60000

d. Rs. 40000

e. None of these

Answer with Detailed Solution

Solution (1-50)

1. A

20% of a = b => (20/100)a = b

b% of 20 =(b/100) x 20 = (20a/100) x (1/100) x (20) = 4a/100 = 4% of a.

2. B

Increase in 10 years = (262500 - 175000) = 87500.

Increase% = $\left(\frac{87500}{175000} \times 100\right)\% = 50\%$.

$\therefore$ Required average = $\left(\frac{50}{10}\right)\% = 5\%$.

3. C

Explanation Let the candies with be (x + 15) and x.

Therefore, x + 15 = 60/100(x + 15 + x)

(x + 15) = 3/5(2x + 15)

5x + 75 = 6x + 45

x = 30

So, the marks of two students are 45 and 30

4. D

Explanation: Suppose originally he had x oranges.

Then, (100 - 30)% of x = 140.

70/100 x = 140

x = (140 x 100)/70 = 200.

5. A

Given that the student got 125 marks and still he failed by 40 marks

=> The minimum pass mark = 125 + 40 = 165

Given that minimum pass mark = 33% of the total mark

=> Total mark =33/100 =165

=> Total mark = 16500/33 = 500

6. A

Milk and water ratio = 4:1

Given,

(4x-16)/(x-4+20) =12/13

13x-52 = 3x+48

=>10x=100=>x=10

Initial quantity of milk in the vessel= 40 litres

7. B

Let us take initial quantity of a container be x

Remaining milk = Initial (1-Replaced/Initial)n

12.8= x (1-4/x)^2

12.8x=x2+16-8x

5X2-104x+80=0

Simplify the above equation, we get x= 20 and 0.8 (Eliminate)

8. D

$5\%\text{ of } A + 4\%\text{ of } B = \frac{2}{3}(6\%\text{ of } A + 8\%\text{ of } B)$

$\Rightarrow \frac{5}{100}A + \frac{4}{100}B = \frac{2}{3}\left(\frac{6}{100}A + \frac{8}{100}B\right)$

$\Rightarrow \frac{1}{20}A + \frac{1}{25}B = \frac{1}{25}A + \frac{4}{75}B$

$\Rightarrow \left(\frac{1}{20} - \frac{1}{25}\right)A = \left(\frac{4}{75} - \frac{1}{25}\right)B$

$\Rightarrow \frac{1}{100}A = \frac{1}{75}B$

$\frac{A}{B} = \frac{100}{75} = \frac{4}{3}$

$\therefore$ Required ratio = 4 : 3

9. A

Number of valid votes = 80% of 7500 = 6000.

Valid votes polled by other candidate = 45% of 6000

$= \left(\frac{45}{100} \text{ x } 6000\right) = 2700.$

10. C

Let their marks be (x + 9) and x.

X+9=56/100(2x+9)

25(x + 9) = 14(2x + 9)

3x = 99

x = 33

So, their marks are 42 and 33

11.D

Suppose originally he had x apples.

Then, (100 - 40)% of x = 420.

$\Rightarrow \frac{60}{100} \text{ x } x = 420$

$\Rightarrow x = \left(\frac{420 \text{ x } 100}{60}\right) = 700.$

12. A

Let the original price be Rs. 100.

New final price = 120 % of (75 % of Rs. 100) = Rs. (120/100 * 75/100 * 100) = Rs. 90.

Decrease = 10%

13. D

Present population = 160000 * (1 + 3/100)(1 + 5/200)(1 + 5/100)

= 177366.

14. D

x = 80 % of y

=> x =(80/100)y

=> y/x = 5/4

Required percentage = [(y/2x)*100] % = (5/8*100) % =62.5%

15. A

Saving = 50% of (100 - 40)% of (100 - 30)% of Rs. 18,400

= Rs. (50/100 * 60/100 * 70/100 * 18400)

= Rs. 3864.

16. C

Let the number be x, Then

75% of x + 75 = x

=> x - 75x/100 =75

=> x = 300 .

17. A

Total no. of votes polled = (1800 + 3300 + 3900) = 9000.

Required percentage = (1800/9000 * 100)% = 20%.

18. D

Suppose originally he had x units.

Then, (100 - 65)% of x = 175.

35/100 x = 175

x = 500

19. B

Population increase in 10 years = (22500- 18000) = 4500.

Increase% = (4500/18000 x 100)% = 25%

Required average = (25/10)% = 2. 5%

20. B

Let the large number be x.

Then x - 20 = 20x/100

=> x - x/5 = 20

=> x = 25

21. B

Let the number be x. Then, x-(2/5)x = 510

=> 3x/5 =510

=>x =[510 * (5/3)]

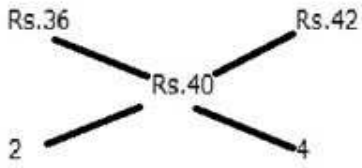
=850

10 % 0f 850

= 85.

22. A

CP of Mixture = 44/110*100=Rs.40



Required ratio = 1:2

23. A

Required amount = 800

From her brother she got = 800 x 20/100 = 160

From her mother she got = (800-160) * 30/100 = 640 * 30/100 = 192

From the Bank she got Rs. 200

∴ Now she needs 800 - (160 + 192 + 200)

= 800 - 552 = Rs. 248 more

24. D

Let the two numbers be Y and Z, such that

15% of Y = 21% of Z

Then, 18% of Y = ? % of Z

15% of Y = 21% Z

18% of Y = ? % of Z

∴ 15 x ? = 21 x 18

$\therefore ? = \frac{21 \times 18}{15} = 25.2\%$

25. C

Total votes = a.

This means that, Votes of candidate 1 + Votes of candidate 2 = a

We know that, Votes of candidate 1 = 40% of a = $\frac{40a}{100}$

Hence, Votes of candidate 2 = (100% - 40%) of a = $\frac{60a}{100}$

60% of a =

1st candidate lost by 1000 votes = difference of votes between both candidates

$\therefore \frac{60a}{100} - \frac{40a}{100} = 2000$

∴ a = 10,000.

26. C

Population after 4 years = $60{,}000 \left(1 + \frac{10}{100}\right)^4$

$= \frac{60{,}000 \times 11 \times 11 \times 11 \times 11}{10 \times 10 \times 10 \times 10} = 87{,}846$

27. B

The original fraction is x/y➔x*250/y*450=25/51

= 15/17.

28. B

n (A) = 34, n (B) = 42, n (A ∩ B) = 20.

So, n (A U B) = n (A) + n(B) - n(A ∩B) = 34 + 42 - 20 = 56.

Percentage failed in either or both the subjects = 56.

Hence, percentage passed = (100 - 56)% = 44%.

29. A

Given 15% of x = 20% of y

=> 15x = 20y

=> x/y = 20/15

=> x : y = 4 : 3

30. C

80/100 + 66/100 + x/200 = 320/400

=>x = 174

=> 87%

31. C

Let two numbers be x and y.

It is given that, 8 % of x = 10 % of y

Therefore

$x = \frac{10}{}\ y = \frac{5}{}\ y$

8 4

Difference between two numbers (x – y)= 1550

Substituting the value of x, we get

$\frac{5}{4} - y = 1550$

$\frac{y}{4} = 1550$

y=1550×4=6200

$x = \frac{5}{4} \times 6200 = 7750$

32. D

CP of mixture = 62.4/120*100=Rs.52

Rs.48 Rs.56

Rs.52

4 4

Required ratio = 4:4=1:1

Required kg = 20/1*1=20 kg

33. A

Let the daily sale be Rs.100

100 *(75/100)*(130/100) =97.5

Decrease = 100 – 97.5 = 2.5%

34. C

Let the smaller no. be x and the larger number be y .

0.8x + 4 = 0.4y

=> 4y – 8x = 40

and y – x = 85

=> x = 75 and y = 160

x + y = 235

35. B

:(2/5)(1/3)(3/7)×x=15.

X=(15×(7/3)×(5/2)×3)=525/2.

40% of x=(40/100)(525/2)=>105.

36. C

:(120/100) ×(130/100) ×100=156.

156-100=56.

37. D

0.5/(x+10)=2/100.

2x=30

X=15.

38. B

40%-looser,60%-winner, defeated 15000=20%

Winner=60%=15000×3=45000.

39. C

Let the price of the petrol be Rs 100.

Now New Price is 120.

She intend to spend is Rs 110.

Amount become 120-110=10

10/120*100 = 8 1/3 % Reduction

40. C

let his income be 100%

Then spend (20+15+25+10)=70%

Remaining 30% saving

30== 6900

100 ? == Rs23,000

41. A

The total income as 100% so ,(100% – 35%+20%+25%) = 80%

And now (100% –80%) = 20%

Purchase 7200 x 25 / 20 = 9000.

42. C

17% of votes =680

Then, total votes =4000

Out of this, 15% were invalid = 4000*(15/100) =600

Then the total valid votes =3400

43. C

Let one kg of sugar earlier = Rs. 100

50 kg of sugar earlier = Rs. 5000

Now 1 kg of sugar = Rs.97

Quantity to buy now = 5000/97 = 51.5kg

44. C

Quantity of pulb in 100kg of fresh fruit = (100 – 70) ×100= 30kg

Quantity of dry fruit be x kg

(100 – 20) % of x = 30

(80/100) x = 30

X = (30 × 100)/80 = 37.5

45. B

25% of four-fifth of 30% of a number is 301.5

Let the number be x.

25/100 * 4/5 * 30/100*x=301.5

X=5025.

46. C

let original price is x rupees per kg

1200/(4x/5) – 1200/x = 5

We will get x = 60, so reduced price = (4*60)/5 = 48

47. E

(30/100)*T = P -10

(40/100)*T = P + 15

U will get P = 85

48. D

Option D, Cannot be determined.

49. A

Decrease in expenditure = (15/115)*100 = 300/23 %=13 1/3%

50. B

Let the monthly salary of Mahesh be x,

X*(55/100)*(60/100) = 16500

X = 16500*(100/55)*(100/60)

X = Rs. 50000

Monthly salary of Mahesh = Rs. 50000

1. Two persons Raj and Ramu started working for a company in similar jobs on January 1, 1991. Raj's initial monthly salary was Rs 400, which increases by Rs 40 after every year. Ramu's initial monthly salary was Rs 500 which increases by Rs 20 after every six months. If these arrangements continue till December 31, 200. Find the total salary they received during that period?

a. Rs 1,08,000

b. Rs 1,44,000

c. Rs 1,32,000

d.Rs 1,52,400

e. None of these

2. A textile manufacturing firm employees 50 looms. It makes fabrics for a branded company. The aggregate sales value of the output of the 50 looms is Rs 5,00,000 and the monthly manufacturing expenses is Rs 1,50,000. Assume that each loom contributes equally to the sales and manufacturing expenses are evenly spread over the number of looms. Monthly establishment charges are Rs 75000. If one loom breaks down and remains idle for one month, the decrease in profit is?

a. Rs 13,000

b. Rs 10,000

c. Rs 7,000

d. Rs 5,500

e. None of these

3. In a class of 60 students, 40% of the students passed in Reasoning, 5% of the students failed in Quants and Reasoning, and 20% of the students passed in both the subjects. Find the number of student passed only in Quants?

a.17

b.33

c.23

d.37

e.None of these

4. In a class, 60% of the students are boys and in an examination, 80% of the girls scored more than 40 marks (Maximum Marks:150). If 60% of the total students scored more than 40 marks in the same exam, what is the fraction of the boys who scored 40 marks or less?

a.8/15

b.7/15

c.4/5

d.1/5

e. None of these

5. Aman's expense is 30% more than Vimal's and Vimal's expense is 10% less than Raman's. If the sum of their expenses is Rs. 6,447, then what would be Aman's expense?

a. Rs. 2,200

b. Rs. 2,457

c. Rs. 1,890

d. Rs. 2,100

e. None of these

6. A bucket is filled with water such that the weight of bucket alone is 25% its weight when it is filled with water. Now some of the water is removed from the bucket and now the weight of bucket along with remaining water is 50% of the original total weight. What part of the water was removed from the bucket?

a. 2/5

b. 1/4

c. 2/3

d. 1/2

e. 1/3

7. The monthly income of Santhosh and Vignesh together is Rs. 62500. The income of Santhosh and Vignesh is increased by 20% and 15% respectively. The new income of Vignesh is Rs. 1375 more than the new income of Santhosh. What is the new income of Vignesh?

a. Rs. 37375

b. Rs. 35625

c. Rs. 36500

d. Rs. 38250

e. None of these

8. 30% of the men are more than 50 years old and 70% of the men are less than or equal to 50 years old. 20% of all men play football. If 20% of the men above the age of 50 play football, what percentage of the football players are less than or equal to 50 years?

a.60%

b.70%

c.80%

d.90%

e. None of these

9. The cost of packaging of the oranges is 20% the cost of fresh oranges themselves. The cost of oranges increased by 30% but the cost of packaging decreased by 50%, then the percentage change of the cost of packed oranges, if the cost of packed oranges is equal to the sum of the cost of fresh oranges and cost of packaging

a.14.5%

b.16.66%

c.14.33%

d.13.66%

e. None of these

10. In a Town 62% of the population is male and remaining are females. Out of the males 74% are literate and remaining is illiterate. Out of females 65% are literate and remaining is illiterate. If total number of illiterate population is 29420, then the population of the town is?

a. 125000

b. 113000

c. 128000

d. 100000

e. None of these

11. The monthly income of Guru and Vinothini together is Rs. 52,200. The income of Guru and Vinothini is increased by 20% and 12% respectively. The new income of Vinothini is Rs. 2784 more than the new income of Guru. What is the new income of Vinothini?

a. Rs.35072

b. Rs. 31584

c. Rs.34150

d. Rs.29658

e. None of these

12. A thesis consists of 20 sheets each of 55 lines and each such line consists of 65 characters. This thesis is reduced onto sheets each of 65 lines such that each line consists of 70 characters. The percentage reduction in number of sheets is closest to?

a.5%

b.25%

c.20%

d.35%

e. None of these

13.If A purchased a car for his part, which depreciates 7 9/13 % per annum and B, deposited his amount in a bank, which pays him 12% interest per annum compounded annually. If A sum is divided between A and B in the ratio of 2:5. By what percentage will the total sum of money increase after two years due to this investment pattern (approximately)?

a.21%

b.10%

c.15%

d.29%

e.23%

14. The number of votes not cast for the KBC Party increased by 25% in the National General Election over those not cast for it in the previous Assembly Polls, and the KBC Party lost by a majority twice as large as that by which it had won the Assembly Polls. If a total 260000 people voted each time, how many voted for the KBC Party in the previous Assembly Polls?

a. 1440000

b. 14000

c. 110000

d. 140000

e. None of these

15. There was 120 litres of pure milk in a vessel. Some quantity of milk was taken out and replaced with 23 litres of water in such a way that the resultant ratio of the quantity of milk to that of water in the mixture was 4:1. Again 23 litres of the mixture was taken out and replaced with 28 litres of water. What is the ratio of milk to water in the resultant mixture?

a. 58:37

b. 116:69

c. 46:29

d. 101:37

e. None of these

16. A school has raised 75% of the amount it needs for a new building by receiving an average donation of Rs. 1200 from the parents of the students. The people already solicited represents the parents of 60% of the students. If the School is to raise exactly the amount needed for the new building, what should be the average donation from the remaining students to be solicited?

a. Rs.800

b. Rs.900

c. Rs.850

d. Rs.600

e. Rs.720

17. Product Pis produced by mixing chemical C and chemical H in the ratio of 5: 4. Chemical C is prepared by mixing two raw materials, C1 and C2, in the ratio of 1: 3. Chemical H is prepared by mixing raw materials, C2 and H1, in the ratio of 2: 1. Then the final mixture is prepared by mixing 864 units of product P with water. If the concentration of the raw material C2 in the final mixture is 50%, how much water had been added to product P?

a. 368 units

b. 328 units

c. 392 units

d. 616 units

e. None of the above

18. A sample of x litres from a can having a 60 litre mixture of beer and water containing beer and water in the ratio of 2: 3 is replaced with beer so that the can will have beer and water in equal proportions. What is the value of x?

a. Cannot determined

b. 30 litres

c. 10 litres

d. 6 litres

e. None of these

19.One test tube contains some acid and another test tube contains an equal quantity of water. To prepare a solution, 20 l of the acid is poured into the second test tube and then two-third of the so formed solution is taken out from the second tube and poured into the first. If the fluid in the first test tube is four times that in the second, what quantity of the water was initially in the test tube?

a. 80 l

b. 60 l

c. 40 l

d. 100 l

e. 120 l

20. A manufacturer has 200 litres of Acid solution which has 15% acid content. How many litres of solution with 30% Acid content may be added so that Acid content in the resulting mixture will be more than 20% but less than 25%

a. More than 100 litres but less than 300 litres

b. More than 120 litres but less than 400 litres

c. More than 100 litres but less than 400 litres

d. More than 120 litres but less than 300 litres

e. None of these

21. Anuj and Meetu work in a shop and Anuj's salary is 5/6th of the salary of Meetu. They spend same money of Rs 2000 and after that save all the money. Find the salary of Anuj and Meetu if the ratio of their savings is 4 : 5?

a. Rs. 10000, Rs 12000

b. Rs.15500, Rs 12500

c. Rs. 8000, Rs 10000

d. Rs. 11000, Rs 8000

e. None of these

22.In a Company of 50 Employees and 12 managers, each employee got sweets that are 25% of the total number of employees and each manager got sweets that are 30% of the total number of employees. Total number of sweets got by all the employees is what percent of total number of sweets got by all the managers?

a.437.22%

b.347.22%

c.374.22%

d.473.22%

e. None of these

23. A shopkeeper wants to make a profit of 20% on an article after selling it, while he gives a cash discount of 20%. Further allows 4 more articles for free after purchase of one dozen articles to his premium customer. How much per cent above the cost price he must mark his article?

a.80%

b.90%

c.100%

d.110%

e. None of these

24.In an election there were three candidates. Candidate A got 20% of the total votes, candidate B got 40% of the total votes while candidate C got 148 votes. 3% of the total votes were invalid. What was the winning margin? (in terms of number of votes)

a. 0

b.12

c.36

d.80

e. None of these

25. A jar contains 'x' liters of Milk, a seller withdraws 25 liter of it and sells it at Rs.20 per liter. He then replaces it water. He repeated the process total three times. Every time while selling he reduces selling price by Rs.2. After this process Milk left in the mixture is only 108 liters so he decided to sell the entire Mixture at Rs. 15 per liter. Then how much profit did he earned if bought Milk at Rs.20 per liter?

a. Rs.50

b. Rs.70

c. Rs.90

d. Rs.100

e. None

26. An alloy contains Brass, Iron and Zinc in the ratio 2:3:1 and another contains Iron, zinc and lead in the ratio 5:4:3.If equal weights of both alloys are melted together to form a third alloy, then what will be the weight of lead per kg in new alloy?

a.5 1/9

b.1/4

c.4 1/7

d.1/8

e.2/7

27. Two vessels A and B contain a mixture of Milk and Water. In the first vessel (i.e) Vessel A has the ratio of Milk to water is 8 : 3 and in the second vessel, Vessel B has the ratio of 5 : 1. A 35 litre capacity vessel is filled from these two vessels so as to contain a mixture of Milk and water in ratio of 4 : 1. Then how many litres should be taken from the first vessel, Vessel "A".

a. 12 L

b. 17 L

c. 14 L

d. 11 L

e. None of the Above

28. A vessel is filled with 120 litres of Chemical solution, Acid "A". Some quantity of Acid "A" was taken out and replaced with 23 litres of Acid "B" in such a way that the resultant ratio of the quantity of Acid "A" to Acid "B" is 4:1. Again 23 litres of the mixture was taken out and replaced with 28 litre of Acid "B". What is the ratio of the Acid "A" to Acid "B" in the resultant mixture?

a. 43 : 29

b. 46 : 23

c. 47 : 21

d. 46 : 29

e. None of the Above

29. 18 litres of Petrol was added to a vessel containing 80 litres of Kerosene. 49 litres of the resultant mixture was taken out and some more quantity of petrol and kerosene was added to the vessel in the ratio 2:1. If the respective ratio of kerosene and petrol in the vessel was 4:1, what was the quantity of kerosene added in the vessel?

a. 1 litre

b. 2 litre

c.5 litre

d. 3 litre

e. None of the Above

30. A vessel which contains a mixture of acid and water in ratio 13:4. 25.5 litres of mixture is taken out from the vessel and 2.5 litres of pure water and 5 litres of acid is added to the mixture. If resultant mixture contains 25% water, what was the initial quantity of mixture in the vessel before the replacement in litres?

a. 58 litre

b. 68 litre

c. 78 litre

d. 48 litre

e. None of the Above

31. Somnath bought two different kinds of oil, one is soya oil and another is olive oil. There are two mixtures of these two oils . In the first mixture the ratio of the soya and olive oil is in the ratio of 3 : 4 and in the second mixture the ratio of the soya and olive oil is 5 : 6 . If he mixes these two mixtures and makes a third mixture of 36 litres in which the ratio of the soya oil and olive oil is 4 : 5. Find the quantity of the second mixture that is needed to make 36 litres of third type of mixture?

a. 25 L

b. 22 L

c. 34 L

d. 18 L

e. 27 L

32. A vessel which contains 100 litres of salt and sugar solution in the ratio of 22 : 3 . From the vessel 40 litres of mixture is taken out and 4.8 litres of pure salt solution and pure sugar solution , both are added to the mixture . What is the percentage of the quantity of sugar solution in the final mixture less than the quantity of salt solution?

a. 72(1/4)%

b. 78(1/2)%

c. 70(1/5)%

d. 74(1/3)%

e. 79(1/6)%

33. From a container of wine, 8 litres of wine is drawn and replace the same quantity with water. This is performed three more times, now the ratio of the quantity of wine to that of water in the container becomes 16 : 65. What is the initial quantity of wine in the container?

a. 26 L

b. 28 L

c. 24 L

d. 22 L

e. 20 L

34. In two alloys copper and zinc are in the ratio of 1:3 and 4:1 respectively. 20 kg of first alloy and 35 kg of second alloy and some quantity of pure zinc is melted together. The final alloy has copper and zinc

in the ratio of 5:4. Find the amount of pure zinc melted?

a. 4.2

b. 4.4

c. 4.6

d. 4.8

e. None of these

35. A shopkeeper sells two types of books national books and international books .He sells national books at Rs. 18 / book and incurs at loss of 10% whereas on selling the international books at Rs. 30 / book ,he gains 20 % .Find the ratio of the national and international books such that he can gain a profit of 25% by selling the combined books at 27.5/ book ?

a. 5:6

b. 5:2

c. 4:5

d. 2:3

e. 4:7

36.One test tube contains some acid and another test tube contains an equal quantity of water .To prepare a solution , 20 g of the acid is poured into the second test tube .Then , two –third of the so- formed solution is poured from the second tube into the first .If the fluid in the first test tube is four times that in the second ,what quantity of water was taken initially ?

a. 90 g

b. 70 g

c. 154 g

d. 100g

e. 180 g

37. A tank which contains a mixture of syrup and water in ratio 15:6. 25.5 litres of mixture is taken out from the tank and 2.5 litres of pure water and 5 litres of syrup is added to the mixture. If resultant mixture contains 25% water, what was the initial quantity of mixture in the tank before the replacement in litres?

a. 77.7

b. 70.78

c. 75.6

d. 80.5

e. 76

38. 500 kg of ore contained a certain amount of iron. After the first blast furnace process, 200 kg of slag containing 12.5% of iron was removed. The percentage of iron in the remaining ore was found to be 20% more than the percentage in the original ore. How many kg of iron were there in the original 500 kg ore?

a. 54.2

b. 58.5

c. 46.3

d. 42.4

e. 89.2

39.A woman travels 200 km in 5 hours in two parts. In the first part of the journey, she travels by car at the speed of 50 km/hr . In the second part of the

journey , she travels by bus at the speed of 30 km/hr . How much distance did she travel by bus?

a. 75 km

b. 55 km

c. 40 km

d. 95km

e. 20 km

40. In a company, there are 75% skilled workers and remaining ones are unskilled. 80% of skilled workers and 20% of unskilled workers are permanent. If number of temporary workers is 126, then what is the number of total workers?

a. 430

b. 360

c. 400

d. 380

e. None

41. In what ratio must a person mix three kinds of musted seeds costing Rs.65/kg, Rs.70/kg and Rs.105 /kg so that the resultant mixture when sold at Rs.96/kg yields a profit of 20%?

a. 1:2:4

b. 3:7:6

c. 1:4:2

d. 1:8:6

e. 40 : 8 : 25

42. A merchant mixes three varieties of rice costing Rs.40/kg, Rs.48/kg and Rs.60/kg and sells the mixture at a profit of 40% at Rs.60 / kg. How many kgs of the second variety will be in the mixture if 4 kgs of the third variety is there in the mixture?

a. 1 kg

b. 20 kgs

c. 3 kgs

d. 6 kgs

e. 8kgs

43.A bar is creating a new signature drink. They are using two alcoholic ingredients in the drink: vodka and gin. They are using two non-alcoholic ingredients in the drink: orange juice and cranberry juice. The alcoholic ingredients contain 40% alcohol. The non-alcoholic ingredients contain no alcohol. How many liters of non-alcoholic ingredients must be added to 6 liters of alcoholic ingredients to produce a mixture that is 15% alcohol?

a. 15

b. 20

c. 5

d. 10

e. 16

44. From container A containing 54 liter of mixture of milk and water in ratio of 8 : 1 , 18 liter of the mixture is taken out and poured into container B in which ratio of milk to water is 3 : 1. If difference between total milk and total water in container B is 30 liter then find the quantity of initial mixture in container B?

a. 30 Liter

b. 28 Liter

c. 32 Liter

d. 36 Liter

e. 40 Liter

45.A vessel has 200 litre of milk and 40 litre of water. If _____ litres of mixture is taken from the vessel and _____ litres of water is added to the remaining mixture, then the final amount of milk in the vessel becomes 125 litre more than the amount of water in it. Which of the following integral values given in the options are possible in the blanks in same order?

A. (36, 11)

B. (30, 15)

C. (42, 12)

D. (24, 19)

E. (18, 24)

a. only A

b. only A, B and E

c. only A and B

d. only A, B and D

e. All four are possible

46.Rakesh adds 12% of his salary in PPF. 3/8th of the remaining amount is spent on clothes and the difference between PPF and clothes expenses is Rs 10500. Remaining amount is spent on house rent and other expenses. If house rent expenses is Rs 1500 less than other expenses, then what is the house rent expenses?

a. Rs. 12000

b. Rs. 10000

c. Rs. 13000

d. Rs. 11000

e. None of these

47. Two jar A and B. Both contain 20 % milk. The quantity of jar A is 4 times than that of quantity of jar B. both jar mixtures are mixed and form new mixture C and 15 litres of water is added .The final ratio of water to milk is now 19:4. Find the initial quantity (in litres) of milk in jar B.

a. 5

b. 4

c. 10

d. 8

e. None of these

48.Out of a total 85 children playing badminton or table tennis or both, total number of girls in the group is 70% of the total number of boys in the group. The number of boys playing only badminton is 50% of the number of boys and the total number of boys playing badminton is 60% of the total number of boys. The number of children playing only table tennis is 40% of the total number of children and a total of 12 children pay badminton and table tennis both. What is the number of girls playing only badminton ?

a. 16

b. 14

c. 17

d. Date inadequate

e. None of these

49. A container contains 165 liters of milk. Some quantity of milk is taken out and half of that quantity of milk, water is added in the container. Now ratio of milk to water in the container becomes 5:3. What is the quantity of water added in it?

a. 40 lit

b. 45 lit

c. 60 lit

d. 30 lit

e. 90 lit

50. An alloy of copper and nickel contains 65 % copper. A second alloy contains copper and nickel in the ratio 17 : 3. In what ratio should the two alloys be mixed so that the new mixture contains 4 times as much copper as nickel?

a. 4 : 5

b. 5 : 4

c. 1 : 3

d. 2 : 3

e. None of these

Answer with Solution

Solution (1-50)

1. D

Raj's salary as on 1 jan 1991 is Rs 400 per month

His increment in his month salary is Rs 40 per annum

His total salary from 1 jan 1991 to 31st dec 2000

i.e. in ten years

$=12[2(400)+(10-1)40]\times 10/2$

=Rs 69,600

Ramu's salary as on Jan 1st 1991 is Rs 500 and his half yearly increment in his month salary is Rs 20.

His total salary from 1 jan 1991 to dec 31, 2000

$=6[2(500)+(20-1)20]\times 20/2$

=Rs 82,000

Total salary of Raj and Ramu in the ten year period:

= Rs. 69600+ Rs. 82800

⇒ Rs 1,52,400

2. C

Profit = 5,00,000−(1,50,000+75,000) =Rs. 2,75,000

Since, such loom contributes equally to sales and manufacturing expenses.

But the monthly charges are fixed at Rs 75,000.

If one loan breaks down sales and expenses will decrease.

New profit

$=500000\times 49/50-150000\times 49/50-75000$

⇒Rs 2,68,000⇒Rs 2,68,000

Decrease in profit

$=2,75,000-2,68,000=2,75,000-2,68,000$

== Rs. 7,000

3. B

Total students=60

Failed in both=5% of 60=3

Passed in both=20% of 60=12

Passed in reasoning=50% of 60=24

Those passed only in reasoning =24-12=12 students.

Passed only in Quants=60-(12+12+3)=33

4. A

Assume Total no of students = 100

60% of the students are boys. so Boys=60,Girls=40

No. of girls who scored more than 40 marks = 80% of girls = 80% of 40 = 32.

No. of students who scored more than 40 marks = 60% of Total Students = 60

Therefore No. of boys who scored more than 40 marks = 60-32=28

No. of boys who scored less= Total boys – Boys(scored more) = 60-28=32

Fraction=(scored less)/Total boys = 32/60 =8/15

5. B

Sol.

A	V	R
$90\times\frac{130}{100}=117$	90	100

Aman's share = Rs. $\frac{117}{307}\times 6447$

= Rs. 2457

6. C

Let original weight of bucket when it is filled with water = x

Then weight of bucket = (25/100) * x = x/4

Original weight of water = x – (x/4) = 3x/4

Now when some water removed, new weight of bucket with remaining water = (50/100) * x = x/2

So new weight of water = new weight of bucket with remaining water – weight of bucket = [(x/2) – (x/4)] = x/4

So part of water removed = [(3x/4) – (x/4)]/(3x/4)=2/3

7. A

Let the income of Santhosh and Vignesh be S and V,

The monthly income of Santhosh and Vignesh = 62500

S + V = 62500

Santhosh's income = x; Vignesh's income = 62500 – x

New income of V = New income of S + 1375

V's new income = (62500 – x)*115/100

S's new income = x * 120/100

(62500 – x)* (115/100) = x * (120/100) + 1375

(7187500 – 115x)/100 = (120x/100) + 1375

(7187500 – 115x)/100 = (120x + 137500)/100

(7187500 – 115x) = (120x + 137500)

7187500 – 137500 = 115x + 120x

7050000 = 235x

Santhosh's income X = (7050000/235) = 30000

Vignesh's income = 62500 – x = 32500

New Income of Vignesh = 32500*(115/100) = Rs. 37375

8. B

Let number of men = 100

less than or equal to 50 years old is 70

then 30 men are greater than 50 years of age.

Number of men above 50 years who play football = 20% of 30 = 6

20% of all men play football means total no. of men who play football = 20, out of which 6 men are above 50 years old.

So, 20 – 6 = 14 men are less than or equal to 50 years old.

Therefore, percentage of football players less than or equal to 50 years = (14/20)*100 = 70%

9. B

Let initial Cost of fresh, oranges = 100.

packaging cost = 20. Initial total cost = 100 + 20 = 120

After increasing in cost of fresh mangoes 30%,

Cost of fresh mangoes = 130

And cost of packing go down by 50 % so,

Cost of packing = 10.

Total cost = 130 + 10 = 140.

Increased cost = 140 – 120 = 20.

% increased = (20*100) /120 = 16.66%.

10. D

Males = 62%

Females = 38%

Let the population of the town be x,

According to the question,

(62/100) * x * (26/100) + (38/100) * x * (35/100) = 29420

=> 403x/2500 + 133x/1000 = 29420

=> 1471x/5000 = 29420

= > x = 29420*(5000/1471)

=> x = 100000

The population of the town is 100000

11. B

Let the income of Guru and Vinothini be G and V,

The monthly income of Guru and Vinothini = 52200

G + V = 32000

Guru's income = x; Vinothini's income = 52,200 – x

New income of V = New income of G + 2784

V's new income = (52200 – x)*112/100

G's new income = x * 120/100

(52200 – x)* (112/100) = x * (120/100) + 2784

(5846400 – 112x)/100 = (120x/100) + 2784

(5846400 – 112x)/100 = (120x + 278400)/100

(5846400 – 112x) = (120x + 278400)

5846400 – 278400 = 112x + 120x

5568000 = 232x

Guru's income X = (5568000/232) = 24000

Vinothini's income = 52200 – x = 28200

New Income of Vinothini = 28200*(112/100) = Rs. 31584

12. C

No. of Characters in one line = 65
No. of characters in one sheet = No. of lines × No. of characters per line = 55 * 65
Total number of characters = No. of sheets × No. of characters in one sheet = 20 * 55 * 65
=71500

If the thesis is retyped –
New sheets have 65 lines, with 70 characters per line
No. of characters in one sheet = 65 × 70
Number of pages required,

$$= \frac{Total\ no.of\ caracters}{No.of\ characters\ in\ one\ sheet\ if\ retyped} = \frac{71500}{65 \times 70} = 15.71$$

Hence, 16 pages will be required if thesis is retyped.
Hence, reduction of (20 – 16) = 4 pages
% reduction is = (4/20) *100 = 20%

13. B

A: B = 2:5

Let us take 2600 as A's part.

SI =(2600 *100/13*2) /100

Depreciation=400

B investment is compound interest:

= 6500 (1+12/100)2 =8153.6

=8153.6 – 6500 = 1653.6

Total amount at the end of the year = 2600-400+8153.6

= 10053.6

Increase in percentage = 10053.6-9100 /9100 *100=10.47 =10 %(approx)

14. D

Total Votes = 260000

Let x voters voted against the party in the Assembly Poll.

Then votes in favor = 260000 – x

Therefore, majority of votes by which party won in previous poll = 260000 – x – x = 260000 – 2x

Next year votes against the KBC party increase by 25%

So, votes against the party in general election = 1.25 x

And votes polled in favor of the party = total votes – votes against = 260000 – 1.25x

Therefore, majority of votes by which party lost in general election

= 1.25x – (260000 – 1.25x) = 2.5x – 260000

It is given that, KBC Party lost by a majority twice as large as that by which it had won the Assembly Polls, Therefore

2.5x – 260000 = 2(260000 – 2 x)

2.5x – 260000 = 2 * 260000 – 4x

6.5x = 3*260000

x = 120000

Therefore, voters polled by the voters for the party in Assembly Polls for previous year
= (260000 – x) = (260000 – 120000) = 140000.

15. C

The quantity of water in the mixture= 23*(1/5) = 4.6 litres Milk in the mixture= 23-4.6= 18.4 litres
Total quantity of milk= 120 litres
=>(120-x)/23= 4/1
=>120-x=92
=> x= 28 litres
Total quantity= 92+23= 115 litres
Again 23 litres of mixture was taken out and replaced with 28 litres of water. Then,
Quantity of milk= 115-23= 92 litres
= (92-18.4)/ (18.4+28) =73.6/46.4
= 46/29

16. D

Let the number of parents be x who has been asked for the donations.
People already solicited = 60% of x = 0.6x
Remaining people = 40% of x = 0.4x
Amount collected from the parents solicited= 1200 *0.6x = 720x
720x = 75%; Remaining amount = 25% = 240x
Thus, Average donations from remaining parents = 240x /0.4x = 600

17. A

Pis produced by mixing chemical C and chemical H in the ratio 5: 4
Hence, 5/9th of product P is chemical C and 4/9th of product P is chemical H
Chemical C has Cs1 and C2 in the ratio 1: 3
so, 3/4th of C is C2
Therefore, fraction of C2 in product P from chemical C = 5/9 * 3/4
Chemical H has C2 and H1 in the ratio 2: 1
so, 2/3rd of H is C2
Therefore, fraction of C2 in product P from chemical H = 4/9 * 2/3
Adding the two, the fraction of C2 in Product P
= 5/9* 3/4 + 4/9* 2/3
= 77/108
The final product is obtained by mixing 864 units of product P with water
In 864 units of Product P, amount of C2 = 864 * 77/108 = 616
In the final mixture, concentration of C2 is 50%.
Therefore, the total quantity of final mixture = 616 * 2 = 1232
Water added = 1232 – 864 = 368

18. C

The easy way to solve this question is go through options

the mixture of 60 litres has in it 24 litres of beer and 36 litres of water. (2: 3: : beer: water)

When you remove x litres from it, you will remove 0.4x litres of beer and 0.6x litres of water from it

Take option c) According to this option, x=10

+

So, when one removes, 10 litres of the mixture, one is removing 4 litres of beer and 6 litres of water

Therefore, there will be 20 litres of beer and 30 litres of water in the can

Now, when you add 10 litres of beer, you will have 30 litres of beer and 30 litres of water –

19. D

Since acid in first tube = water in second tube = x l(let)

ATQ,

$$(x-20)+\frac{2}{3}(x+20)=4\left[(x+20)-\frac{2}{3}(x+20)\right]$$

$\Rightarrow 3x-60+2x+40=4\times(x+20)$

$\Rightarrow x=100$ l

$\therefore$ Initial quantity of water = 100 l

20. C

Initial quantity of acid = $2\times15=30\ \ell$

Let x litre of second solution is added.

$$\therefore \frac{30+0.3x}{200+x}>\frac{20}{100} \quad \& \quad \frac{30+0.3x}{200+x}<\frac{25}{100}$$

$$\Rightarrow \frac{30+0.3x}{200+x}>\frac{1}{5} \quad \& \quad \frac{30+0.3x}{200+x}<\frac{1}{4}$$

$\Rightarrow 200+x<150+1.5x \quad \& \quad 200+x>120+1.2x$

$\Rightarrow x>100 \quad \& \quad x<400$

$\Rightarrow 100\ell<x<400\ell$

21. A

Let Meetu's salary = Rs x

Anuj's salary = Rs 5x/ 6

According to the question,

5x/ 6 – 2000 : x – 2000 = 4 : 5

5 (5x/ 6 – 2000) = 4 (x – 2000)

25x/ 6 – 10000 = 4x – 8000

25x/ 6 – 4x = 10000 – 8000

x/ 6 = 2000

x = 12000

Anuj's salary = Rs 10000, Meetu's salary = Rs 12000

22. B

Total number of sweets got by all the employees

$= 50\times\frac{25}{100}\times50=625$

Total number of sweets got by all the managers=12*30/100*50=180

625/180*100=347.22%

23. C

Let CP of 1 article = Rs. 100

CP of 16 articles = Rs. 1600

Now he is selling 4 articles for free after purchase of 12 articles. So, SP of 12 articles = 120% of CP of 16 articles = 120% of 1600 = 1920

SP of 1 article = Rs. $\frac{1920}{12}$ = Rs.160

MP of 1 article after 20% discount on SP

$= 160\times\frac{100}{80}$ = Rs. 200

Hence required percent = (200 – 100) × 100 = 100%

24. B

A got 20% of the votes, B got 40% of the votes and 3% of the total votes were invalid.

∴ C got 37% of the votes.

Also, C got 148 votes,

∴ If the total number of votes is x, then 148 = 0.37 × x

∴ x = 148 ÷ 0.37 = 400.

Again, as A got 20% of the votes, B (the winner) got 40% of the votes and C (the runner up) got 37% of the votes.

Thus, B won the election by a margin of just 3% of the total votes.

Hence, the winning margin is 3% of 400 = 0.03 × 400 = 12.

25. B

Seller sells Milk at Rs.20,18 and 16 respectively for three times

= 25*(20+18+16) = 1350

108 = x(1-25/100) 3

x =256 liter

He sold entire 256 at Rs.15 =256*15 = 3840

Cost price = 256*20 = 5120

Profit = 5190-5120 = 70

26. D

In the first alloy,

2:3:1 =6*2

5:4:3 =12

Multiply 2 to make it equal,

4:6:2

5:4:3

Adding all,

4:11:6:3=24

3/24=1/8

27. D

[8/11(x) + 5/6(35-x)]/[3/11(x) + 1/6(35-x)] = 4/1

x = 11

28. D

In 23 litre mixture, Quantity of Acid "B" = 23 * 1/5 = 4.6 litre

Acid "A" in the mixture = 23 – 4.6 = 18.4 litre

120 – x / 23 = 4 / 1

x = 28

Ratio = 92-18.4 : 18.4 + 28

Ratio = 46 : 29

29. E

Total quantity of the mixture = 18+80 = 98 litre

quantity of petrol remaining = 18/2 = 9

quantity of kerosene remaining = 80/2 = 40

(40 + 2x) / (9 + x) = 4 / 1

x = 2

Quantity of kerosene added in the vessel = 2x = 4 litre

30. B

Quantity of Acid = 13x

Quantity of water = 4x

Total = 17x

Resultant Mixture = 17x – 25.5 + 2.5 + 5 = 17x – 18

Resultant water = 4x – 25.5 * (4/17) + 2.5 = 4x – 3.5

Resultant mixture contains 25% water

(17x – 18)*25/100 = 4x – 3.5

x = 4

Initial quantity = 17*4 = 68

31. B

Solution:

MixI ———————— MixII

(3/7) ————————- (5/11)

————————(4/9)

(1/99)————————(1/63)

Ratio = 7 : 11

Required quantity of the second mixture to make the third mixture

= (11/18)*36 = 22 litres

32. E

40 L is taken out remaining 60 L

salt solution = (22/25)*60 = 52.8 L

sugar solution = (3/25)*60 = 7.2 L

On adding salt and sugar solution

salt solution = 52.8 + 4.8 = 57.6 L

sugar solution = 7.2 + 4.8 = 12 L

Require % = (57.6 – 12)/57.6 = 79(1/6)%

33. C

Let x be the initial quantity of the wine .

After 4 operations the quantity of wine left = [x{1-(8/x)^4}]L

=> [x{1-(8/x)}^4] = 16 / 81

=>{1 – (8/x)}^4 = 16/81

=> (x -8)/x = 2/3

=> x = 24 L

34. B

In 1st alloy copper = (1/4)*20 = 5kg and zinc = (3/4)*20 = 15kg

in 2nd alloy copper = (4/5)*35 = 28kg and zinc = (1/5)*35 = 7kg

So, 33/(22+x) = 5/4 (X is the amount of pure zinc added)x=4.4

35. B

Loss at national books = 10% = 1/10

SP -> 9 = 18

1 = 2

CP -> 10 = 20

Gain at international books = 20 % = 1/5

SP -> 6 = 30

1 = 5

CP ->5 = 25

CP = 4 *5.5 = 22

National Books	International Books
20	25
.	22
5	2

36. D

Let x g of water was taken initially .

1st process

First test tube (x- 20)

second test tube (x +20)

2nd process

First test tube = [(x-20) +2/3 (x+20)]

Second test tube = 1/3(x+20)

Now ,

(x -20) + 2/3(x+20) = 4* (1/3)(x+20)

=> x = 100 g

37. A

Quantity of Syrup = 15x

Quantity of water =6x

Total = 21x

Resultant Mixture = 21x – 25.5 + 2.5 + 5 = 21x – 18

Resultant water = 6x – 25.5 * (6/21) + 2.5 = 6x – 7.28

Resultant mixture contains 25% water

(21x – 18)*25/100 = 6x – 7.28

x = 3.7

Initial quantity = 21*3.7 = 77.7

38. D

Initially 'x' kg of iron in 500 kg ore.

Iron in the 200 kg of removed =200*12.5/100= 25 kg.

The percentage of iron in the remaining ore was found to be 20% more than the percentage in the original ore

So (x-25)/300 = (120/100)*x/500

=> x – 25 = 18x/25

=> 7x = 625

=> x = 89.2

39. A

speed of car ——————- speed of bus

50 ——————————- 30

——————200/5

10 ——————————— 10

= 1 : 1

Time taken by both the vehicles = 5/2 = 2.5 hrs

Therefore, distance travelled by bus =30 * 2.5 = 75 km

40. B

Let the number of total workers = X

Number of skilled workers = 75% of X =75X/100 = 3X/4

No. of unskilled workers = 25% of X = 25x/100 = X/4

No. of permanent workers,

= (80/100)*(3X/4) + (20/100)*(X/4)

= (3X/5) + (x/20)

= 13X/20

No. of temporary workers,

= X -(13X/20) = 7X/20

Now,

7X/20 = 126

X = 360.

41. E

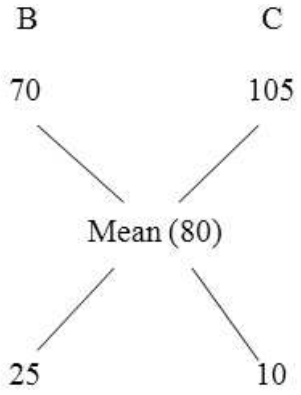
The resultant mixture is sold at a profit of 20% at Rs.96/kg

i.e. 1.2 (cost) = Rs.96 => Cost = = Rs.80 / kg.

Let the three varities be A, B, and C costing Rs.65, Rs.70 and Rs.105 respectively.

The mean price falls between B and C.

Hence the following method should be used to find the ratio in which they should be mixed



A:C=4:5 B:C=2:5

The resultant ratio A : B : C :: 40 : 8 : 25.

42. D

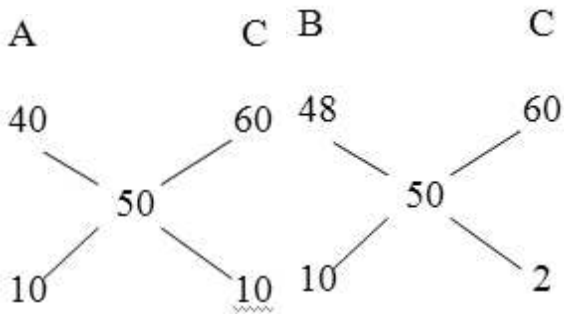
If the selling price of mixture is Rs.60/kg and the merchant makes a profit of 20%, then the cost price of the mixture = 60/1.2 = Rs.50/kg.

We need to find out the ratio in which the three varieties are mixed to obtain a mixture costing Rs.50 /kg.

Let variety A cost Rs.40/kg, variety B cost Rs.48 / kg and variety C cost Rs.60/kg. The mean desired price falls between B and C.

Step 1: Find out the ratio A : C

Using allegation rule



A:C = 1:1

B:C = 5:1

Step 2: QC is found by adding the value of QC in step 1 and step 2 = 1 + 5 = 6

Therefore, the ratio = 1 : 25 : 5

43. D

According to the question

Alcohol ingredients contain 40% alcohol and resultant mixture needs to have 15% alcohol only.

Let the concentration of non-alcoholic ingredients be x liters

Then we have

(6+x) *15% = 6*40% + x * (0% alcohol concentration)

On solving we get x =10 liters

44. C

Let initially milk and water in container B is 3x liter and x liter respectively

Now,

$3x + 89 \times 18 - x - 19 \times 18 = 30$

$3x + 16 - x - 2 = 30$

$x = 8$

Initial quantity is container B = 8 (3 + 1) = 32 Liter

45. D

Let A litres is removed and B litre of water is added to the mixture

Initially, Ratio of milk and water is 5 : 1.

ATQ,

200–56A = 40–A6+B+125

⇒ 105 = 2A + 3B

Among the options only A, B and D satisfy this eqn

46. C

12% of the salary is added as PPF.

Remaining Part = 100 - 12 = 88%

Amount spent on clothes =3/8 of 88% = 33%

Difference between PPF and cloth expanses = 33 - 12 = 21% of salary = 10500

Total salary = 50000

Other expanses = House Rent expanses + 1500

House Rent expanses + Other expanses = (100 - 33 - 12)% of salary

= 55% of salary = 27500

House Rent expanses + House Rent expanses + 1500 = 27500

2 × House Rent expanses = 27500 - 1500 = 26000

House Rent expanses = 13000

47. B

Sol. $\frac{4X+15}{X} = \frac{19}{4}$

$X = 20$

Total milk = 20

Milk in jar B = $\frac{1}{5} \times 20 = 4L$

48. B

	Boys (50)	Girls (35)
Only Badminton 25	14	
Badminton + TT	5	7
Only. TT 20	14	

49. B

Let amount of milk removed = 2x lit

So, amount of water added = x lit

Now $\rightarrow 165-2x/x=5/3$

x = 45 lit

50. C

First alloy – 65% copper.

∴ 35% Nickel.

Ratio is 65 : 35

⇒ 13 : 7.

2nd alloy – Ratio is 17 : 3

∴ Proportion of copper in the 1st alloy = 13/20

and proportion of copper in the 2nd alloy = 17/20.

Also proportion of copper in resulting alloy = 4/5.

Hence required ratio is (17/20 – 4/5) : (4/5 – 13/20)

= 1 : 3.

1. 1100 boys and 700 girls are examined in a test; 42% of the boys and 30% of the girls pass. The percentage of the total who failed is?

a. 58

b. 62 2/3

c. 64

d. 67

e. None of these

2. 405 sweets were distributed equally among children in such a way that the number of sweets received by each child is 20% of the total number of children. How many sweets did each child received?

a. 9

b. 10

c. 11

d. 12

e. None of these

3. The population of a town is 3, 11, 250. The ratio between women and men is 43 : 40. If there are 24% literate among men and 8% literate among women, the total number of literate persons in the town is:

a. 41800

b. 48900

c. 56800

d. 99600

e. 96900

4. A bag contains 600 coins of 25 p denomination and 1200 coins of 50 p denomination. If 12% of 25 p coins and 24% of 50 p coins are removed, the percentage of money removed from the bag is nearly?

a. 21.6 %

b. 15.3 %

c. 14.6 %

d. 12.5 %

e. None of these

5. In a competitive examination in State A, 6% candidates got selected from the total appeared candidates. State B had an equal number of candidates appeared and 7% candidates got selected with 80 more candidates got selected than A. What was the number of candidates appeared from each State ?

a. 4000

b. 8000

c. 12000

d. 16000

e. None of these

6. Ali the barber shaved 40 % of his customers and gave a haircut to 80 % of his customers. He charged Rs. 7 for a shave and Rs. 5 for a haircut. If 20 % of customers who opted for a shave also had a hair-cut, what were Khan's earnings if he had 75 customers (in Rs.)?

a. 410

b.1,020

c. 510

d. Cannot be determined

e. None of these

7. In a class of 80 students and 5 teachers, each student got sweets that are 15% of the total number of students and each teacher got sweets that are 25% of the total number of students. How many sweets were there?

a. 1060

b. 960

c. 1020

d. 920

e. None of these

8. Flower nectar is processed to extract honeybees. How much flower nectar must be processed to yield 1 kg of pure honey, if nectar contains 70% water, and the honey obtained from this nectar contains 17% water?

a. 2.77 kg

b. 1.54 kg

c. 4.01 kg

d. 3.5 kg

e. 4.5 kg

9. Rohan spends 24% of an amount of money on an insurance policy, 34% on food, 19% on children's education and 17% on recreation. He deposits the remaining amount of Rs. 540 in bank. How much total amount does he spend on food and insurance policy together?

a. Rs. 6350

b. Rs. 5220

c. Rs. 5890

d. Rs. 6458

e. None of these

10.In an election, candidate A got 75% of the total valid votes. If 15% of the total votes were declared invalid and the total numbers of votes is 560000, find the number of valid vote polled in favor of candidate?

a. 84000

b. 83000

c. 84000

d. 86000

e. None of these

11. A shopkeeper bought 600 oranges and 400 bananas. He found 15% of oranges and 8% of bananas were rotten. Find the percentage of fruits in good condition?

a. 66

b. 77

c. 88

d. 90

e. None of these

12.A candidate who gets 20% marks fails by 10 marks but another candidate who gets 42% marks gets 12% more than the passing marks. Find the maximum marks.

a. 50

b. 100

c. 150

d. 200

e. None of these

13. The percentage of metals in a mine of zinc ore is 60%. Now the percentage of silver is 3/4% of metals and the rest is zinc. If the mass of ore extracted from the mine is 8000 kg, the mass (in kg) of zinc is?

a. 5147 kg

b. 4764 kg

c. 3587 kg

d. 2125 kg

e. None of these

14.A jar can 20 litre milk. From the jar, 4 litres milk was taken out and replaced with an equal quantity of water. If 4 litres of the newly formed mixture is taken out of the can, then what is the final quantity of milk left in the can?

a. 14.5 lit

b. 12.8 lit

c. 11.6 lit

d. 10.46 lit

e. None of these

15.The cost of packaging of the fruits is 30% the cost of fresh fruits. The cost of fruits increased by 20% but the cost of packaging decreased by 25%, then the percentage change of the cost of packed oranges, if the cost of packed fruits is equal to the sum of the cost of fresh fruits and cost of packaging?

a. 4%

b. 6.5%

c. 5.2%

d. 4.8%

e. None of these

16. In a college there are 60% female students. 50 % of all the male students are in computer department. If there are total 62% students in computer department out of total 2400 students, then the no. of female students who are in computer department?

a. 528

b. 1488

c. 1008

d. 730

e. None of these

17.In an election only two candidates M and N contested 30% of the voters did not vote and 1600 votes were declared as invalid. The winner, M got 4800 votes more than his opponent thus he secured 51% votes of the total voters on the voter list.

Percentage votes of the loser candidate, N out of the total voters on the voter list is?

a. 5%

b. 4%

c. 2%

d. 3%

e. None of these

18.In a factory there are three types of bulbs L1, L2 and L3 which produces 20%, 15% and 32% of the total products respectively. L1, L2 and L3 produces 3%, 7% and 2% defective products, respectively. Find the percentage of non-defective products ?

a.46%

b.30%

c.53%

d.64%

e.None of these

19.In an election 10% of the voters on the voters' list did not cast votes and 60 voters cast their ballot papers blank. There were only two candidates. The winner was supported by 47% of all voters in the list and he got 308 votes more than his rival. The number of voters on the list was?

a. 3600

b. 6200

c. 4575

d. 6028

e. None of these

20. Deepak was to get a 50% hike in his pay but the computer operator wrongly typed the figure as 80% and printed the new pay slip. He received this revised salary for three months before the organization realized the mistake. What percentage of his correct new salary will get in the fourth month, if the excess paid to him in the previous three months is to be deducted from his fourth month?

a. 30%

b. 40%

c. 45%

d. 25%

e. None of these

21. Sohan spends 23% of an amount of money on an insurance policy, 33% on food, 19% on children's education and 16% on recreation. He deposits the remaining amount of Rs. 504 in bank. How much total amount did he spend on food and insurance policy together?

a. Rs.3146

b. Rs.3126

c. Rs.3136

d. Rs.3048

e. None of these

22. In a Bookshelf 60% of the books are in Tamil, 60% of the remaining books are in English rest of the books are in Hindi. If there are 2400 books in English, then the total number of books in Hindi are?

a. 1300

b. 1250
c. 1600
d. 1450
e. None of these

23. The income of a person is 10000 and its expenditure is 6000 and thus saves 4000rs. In the next year his income is increased by 10% and its expenditure increased by 20%. Now his saving is what percent lower than the previous saving?

a. 5%
b. 7.5%
c. 10%
d. 15%
e. None of these

24. There are 2500 students who appeared for an examination. Out of these, 35% students failed in 1 subject and 42% in other subject and 15% of students failed in both the subjects. How many of the students passed in either of the 2 subjects but not in both?

a. 1925
b. 1175
c. 1275
d. 1100
e. 1800

25. In an examination, Mani scored 45% marks and failed by 18 marks. In the same examination, Radhika scored 54% marks and get 27 marks more than the passing marks. What is the score of Mohan in the same examination, who secured 75 % marks?

a. 420
b. 440
c. 375
d. 360
e. None of these

26. 15 % of monthly salary of P is equal to 30% of monthly salary of Q and 20 % of monthly salary of Q is equal to 30 % of monthly salary of R. If R's monthly income is Rs. 40000, then the total income of P, Q and R is?

a. Rs. 227500
b. Rs. 235800
c. Rs. 215000
d. Rs. 220000
e. None of these

27.The cost of a camera is Rs. 3500 more than that of a phone. 3 phone and 3 camera cost is Rs. 70500. Find the cost of a camera?

a. Rs. 14000
b. Rs. 13500
c. Rs. 15500
d. Rs. 12500
e. None of these

28. In a class 125 students, if the ratio of boys and girls in a class is 3: 2. If 24% of the boys and 20% of the girls are interested in dance, then find the % of students who are all not interested in dance?

a. 72.5 %
b. 75.8 %
c. 77.6 %
d. 65.6 %
e. None of these

29. Vasu gave 65% of the amount he had to Jega. Jega gave 2/5th of what he received from Vasu to Saratha. After paying Rs. 320 to the taxi driver out of the amount he gets from Jega, Saratha is now left with Rs. 1500. How much amount did Vasu have?

a. Rs. 8500
b. Rs. 6500
c. Rs. 7000
d. Rs. 9000
e. None of these

30. Kavi scored 92 marks in Computer. He scored 64% marks in Hindi and X marks in GK. The maximum marks for each subject is 200. The overall percentage of marks obtained by Kavi in all three subjects together is 65%. How much marks did Kavi score in GK?

a. 160
b. 192
c. 126
d. 148
e. 170

31. The total salary of Kiran and Varnan in an organisation is Rs. 28000. Kiran & varnan's salary is increased by 6% and 8% respectively, then their increased total salary will be Rs. 29940. Find the salary of Kiran?

a. Rs. 15000
b. Rs. 18000
c. Rs. 20000
d. Rs. 10000
e. Rs. 12000

32. Yuva gave 25% of a certain amount of money to Ram. From the money Ram received, he spent 20% on buying books and 35% on buying a watch. After the mentioned expenses, Ram has 2700 remaining. How much did Yuva have initially?

a. 16000
b. 15000
c. 24000
d. 27000
e. 20000

33. In a company ABC Pvt ltd, the ratio of total number of undergraduate employees to the total number of graduate employees is 13:23. The company has only two branches- one is in Chennai and another is in Delhi. If the total number of undergraduate employees in Chennai branch is 351, Which is 30% of the total undergraduate employees in the company, what is the total number of graduate employees in the company?

a. 2185
b. 1950
c. 2070

d. 1970

e. 2170

34. Jaya's attendance for first two semesters out of four was 60% and 70%, respectively. What is the minimum attendance required in third semester so that her average attendance will be 80% throughout four semesters? (Assume equal number of days among the four semesters)

a.85%

b.90%

c.95%

d.70%

e. None of these

35. 2/5th of the voters promise to vote for A and the rest promised to vote for B. Of these, on the last day 15% of the voters went back of their promise to vote for A and 25% of voters went back of their promise to vote for B, and A lost by 200 votes. Then, the total number of voters is?

a. 10000

b. 11100

c. 11000

d. 9500

e. None of these

36. A box has 100 blue balls, 50 red balls and 50 black balls, 25% of blue balls and 50% of red balls are taken away. Then, percentage of black balls at present is

a.95%

b.50 %

c.100%

d. 100/3%

e. None of these

37. Six-eleventh of a number A is equal to twenty two percent of number B. Number B is equal to the one-fourth of number C. The value of the third number C is 2400, what is the 45% of first number A?

a. 110

b. 108.9

c. 117

d. 208.9

e. None of these

38. Three candidates contested an election and received 1136, 7636 and 11628 votes respectively. What percentage of the total votes did the winning candidate get?

a.57%

b.60%

c.65%

d.90%

e. None of these

39. In a 120 litre mixture of milk and water, the percentage of water is only 20%, the milkman gave 15 litres of this mixture to a customer and then added 15 litres of water to the remaining mixture. What is the percentage of milk in the final mixture?

a.58%

b.68%

c.56%

d.62%

e.70%

40. In two alloys Copper and zinc in the ratio of 3:4 and 3:2 respectively. 28 kg of 1stalloy and 35 kg of 2nd alloy and some quantity of pure zinc is melted together. The final alloy has copper and zinc in the ratio of 4:5. Find the amount of pure zinc melted?

a. 15.35

b. 11.25

c. 15

d. 16

e. None of these

41. A vessel contains 56 litres of mixture of milk and water in the ratio of 3:4. If 21 litres of mixture is taken out from that vessel and then 15 litres of water added to it, what will be the percentage of milk in the final mixture?

a.35%

b.37.5%

c.38%

d.29%

e. None of these

42.There are two containers of equal capacity. The ratio of water to alcohol in the first container is 6:7, and in the second container is 4:5. If they are mixed up, the ratio of water to alcohol in the mixture will be?

a. 6:4

b. 64:53

c. 17:19

d. 53:64

e. 11:13

43. A container contains a mixture of water and milk in the ratio of 7:5. When 9 litres of mixture is drawn out and the remaining part of the container is filled with 9 lit milk, the ratio of water to milk becomes 7:9. How many litres of water does the container have initially?(in litres)

a. 16

b. 24

c. 21

d. 18

e. 25

44. The income of A is 150% of the income of B and the income of C is 120% of the income of A. If the total income of A, B and C together is Rs. 86,000, what is C's income?

a. Rs. 30,000

b. Rs. 32,000

c. Rs. 20,000

d. Rs. 36,000

e. None of these

45.A vessel is filled with milk and water. 60% of milk and 40% of water is taken out from the vessels and it is found that the vessel is vacated by 55% and it has 160L mixture. Find the quantity of milk and water in the mixture respectively inside the vessel?

a. 60L,100L

b. 100L,60L

c. 40L,120L

d. 120L,40L

e. None of these

46.There are two containers of equal capacity. The ratio of milk to water in the first container is 5: 3 and in the second container it is 4:3.If they are mixed up, the ratio of milk to water in the mixture will be?

a. 45:67

b. 67:45

c. 67:115

d. 45:115

e. None of these

47. A caretaker of zoo counted the heads of the animals in a zoo and found it to be 80. When he counted the legs of the animals he found it to be 260. If the zoo had either Hornbill or jackal, how many jackals were there in the zoo?(In the zoo, each jackal had four legs and each hornbill had two legs)

a. 40

b. 30

c. 50

d. 60

e. Cannot determined

48. Two gallons of a mixture of spirit and water contains 12% of water. They are added to 3 gallons of another mixture, containing 7% of water, again half of a gallon of water is added to the whole mixture. Find percentage of water in the resulting mixture?

a. 17 3/11

b. 16 12/11

c. 14 1/11

d. Cannot be determined

e. None of these

49. Alok bought 25 kg of rice at the rate of Rs. 6 per kg and 35 kg of rice at the rate of Rs. 7 per kg. He mixed both type of rice and sold the mixture at the rate of Rs. 6.75 per kg. What was his gain or loss in the transaction?

a. Rs. 16 gain

b. Rs. 16 Loss

c. Rs. 20 gain

d. Rs. 10 gain

e. Rs. 10 loss

50. An alloy contains zinc and copper in the ratio 5 : 8 and another alloy contains zinc and copper in the ratio 5 : 3. If equal amount of both the alloys are melted together, then the ratio of zinc and copper in the resulting alloy is

a. 25 : 24

b. 3 : 8

c. 103 : 105

d. 105 : 103

e. 8 : 3

Answer with Solution

Solution (1-50)

1. B

Total number of students = 1100 + 700 = 1800.

Number of students passed = (42% of 1100 + 30% of 700) - (462 + 210) = 672.

Number of failues = 1800-672 = 1128.

Percentage failure = (1128/1800 * 100)% = 62 * 2/3 %.

2. A

Let the total number of children be x.

Then, x * (20% of x) = 405

=> x * 20x/100 = 405

X^2=405*5=2025

=> x=45

Number of sweets received by each child = 20% of 45 = 9.

3. B

Total literate persons

$$= \frac{43}{83} \times \frac{8}{100} \times 3,11,250 + \frac{40}{83} \times \frac{24}{100} \times 3,11,250$$

$$= 48900$$

4. A

Total money = Rs.[600*(25/100)+1200*(50/100)]= Rs. 750.

25 paise coins removed = Rs. (600*12/100) = 72.

50 paise coins removed = Rs. (1200*24/100)= 288.

Money removed =Rs.(72*25/100+288*50/100) = Rs.162.

Required percentage = (162/750*100)% = 21.6 %.

5. B

Let the number of candidates appeared from each state be x.

In state A, 6% candidates got selected from the total appeared candidates

In state B, 7% candidates got selected from the total appeared candidates

But in State B, 80 more candidates got selected than State A

From these, it is clear that 1% of the total appeared candidates in State B = 80

=> total appeared candidates in State B = 80 x 100 = 8000

=> total appeared candidates in State A = total appeared candidates in State B = 8000

6. C

Total customers = 75

Numbers of customers shaved = 75 * 40/100 = 30

Number of customers who got hair cut = 75 * 80/100 = 60

∴ His total income= (30 * 7) + (60 * 5) = 210 + 300 = 510.

7. A

Total number of sweets

= 80 x 15 x 80/100 + 5 x 80 x 25/100

= 960 + 100 = 1060

8. C

. Equate the amount of honey in nectar and honey, because we need pure honey only and not water.

Let x = amount of nectar to be processed, then

$x \times \frac{30}{100} \times \frac{83}{100} = 1 \quad , \quad (1kg\ of\ pure\ honey)$

⇒ x = 4.01 kg

9. B

Remaining % of amount with Rohan

= 100 - (24 + 34 + 17 + 19)

= 100 - 94

= 6%

=> 6% = 540

=> 100% = ?

540 x 100/6 = Rs. 9000

Now, Money spent on insurance and food is

= 34 + 24 = 58% of 9000

= 58 x 9000/100

= 58 x 90

= Rs. 5220

10. E

Total number of invalid votes = 15 % of 560000

= 15/100 × 560000

= 8400000/100

= 84000

Total number of valid votes 560000 – 84000 = 476000

Percentage of votes polled in favour of candidate A = 75 %

Therefore, the number of valid votes polled in favour of candidate A = 75 % of 476000

= 75/100 × 476000

= 35700000/100

= 357000

11.C

Total number of fruits shopkeeper bought = 600 + 400 = 1000

Number of rotten oranges = 15% of 600

= 15/100 × 600

= 9000/100 = 90

Number of rotten bananas = 8% of 400

= 8/100 × 400

= 3200/100 = 32

Therefore, total number of rotten fruits = 90 + 32 = 122

Therefore Number of fruits in good condition = 1000 - 122 = 878

Therefore Percentage of fruits in good condition = (878/1000 × 100)%

= (87800/1000)%

= 87.8%==>88(APPROX)

12. B

From the given statement pass percentage is

42%−12%=30%

By hypothesis, 30% of x–20% of x=10 (marks)

i.e., 10% of x=10

Therefore, x = 100 marks.

13. B

Mass of zinc ore = 8000 kg

Mass of metal = 60% of 8000 = 4800 kg

Mass of silver in metal = 3/4 x 4800/100 = 36 kg

Mass of zinc = 4800 - 36 = 4764 kg.

14. B

This can be solved as

$20 (1 – 4/20)^2 = 20 (1 – 1/5)^2 = 20(4/5)^2 = 20 (16/25) = 64/5 = 12.8$

15. E

Let initial Cost of fresh, fruits = 100.

Packaging cost = 30. Initial total cost = 100 + 30 = 130

After increasing in cost of fresh fruit 20%,

Cost of fresh fruits = 120

And cost of packing decreases by 25 % so,

Cost of packing = ¾*30=22.5

Total cost = 120 + 22.5 = 142.5

Increased cost = 142.5-130=12.5

% increased = (12.5*100) /130 = 9.61%

16. C

Let 60% students are female and 40% are male.

Then,(50%male) 20% of male are in computer department and (62-20)42% are female in computer department.

Female in computer department = (2400 *42) /100 = 1008.

17. D

Total voters on the voter list = x

51/100x + 51/100x – 4800 = 70/100x – 1600

102x/100 – 4800 = 70/100x – 1600

32x/100=3200

x = 10000

Votes of the loser candidate = 5100 – 4800 = 300

Percentage votes of the loser candidate = 300/10000 * 100 = 3%

18. D

(20*0.97)+(15*0.93)+(32*0.98) = 19.4+13.95+31.36 = 64.71

19. B

Let total number of voters= x

People who voted for the winner are = 0.47x

People who voted for the loser are = 0.47x-308

People who cast blanks are = 60

and people who did not vote are = 0.1x

solve the following equation

0.47x+0.47x-308+60+0.1x=x => x=6200

20. B

Assume Deepak's salary =10000

original hike(50%) amount = 5000 ; Revised salary =15000

Wrongly typed(80%) hike amount = 8000

Diff = 3000; For three months = 9000

Fourth Month Salary = 15000-9000=6000

15000*x/100 = 6000 => x=40%

21. C

Savings(%)

[100 – (23 + 33 + 19 + 16)]% = 9 %

9% of x = 504

=> x = 504 * 100/9 = 5600

Amount spend on food and insurance policy together = 56% of 5600 = Rs.3136

22. C

Let there are X books in the Bookshelf.

Number of Tamil books = 60% of X = 60X /100 = 0.6X

Remaining Books = X – 0.6X = 0.4X

Number English books = 40% of reaming books = 60% of 0.4X = 0.24X.

Hindi Books = X-0.6X -0.24X = 0.16X

Given, 0.24X = 2400

X = 2400/0.24 = 10000

Urdu Books = 0.16X = 0.16*10000 = 1600.

23. A

Initially I-E = S (I = Income, E = expenditure, S = saving)

10000-6000 = 4000(saving)

Now, I = 11000 and E = 7200. So saving = I – E = 3800.

[(4000-3800)/4000]*100 = 5%

24. B

Failed in 1st subject = (35/100) * 2500 = 875

Failed in 1st subject = (42/100) * 2500 = 1050

Failed in both = (15/100) * 2500 = 375

So failed in 1st subject only = 875 – 375 = 500

failed in 2nd subject only = 1050 – 375 = 675

passed in 1st only + passed In 2nd only = 675+500=1175

25. C

Here passing marks equal. So,

= > 45 % of total marks + 18 = 54 % of total marks – 27

= > 18 + 27 = (54 – 45) % of total marks

= > 45 = 9 % of total marks

= > Total marks = 45*(100/9) = 500

Mohan's mark = (75/100)*500 = 375

26. D

15P/100 = 30Q/100 –> 1

20Q/100 = 30R/100 –> 2

From 1, P = 2Q

From 2, 2Q = 3R (Here, R = 40000)

Q = (3*40000)/2 = 60000

P = 2Q = 2*60000 = 120000

P + Q + R = 120000 + 60000 + 40000

= > 220000

The total income of P, Q and R is Rs. 220000

27. B

Let the cost of a phone be Rs. x

The cost of a camera = x + 3500

3*(x + 3500) + 3x = 70500

3x + 10500 + 3x = 70500

6x + 10500 = 70500

6x = 70500 – 10500

X = 60000/6

X = 10000

The cost of a phone = Rs. 10000

The cost of a camera = Rs. (10000 + 3500) = Rs. 13500

28. C

Total no of students = 125

The ratio of boys and girls in a class = 3 : 2 (3x, 2x)

Boys = 125*(3/5) = 75, Girls = 125*(2/5) = 50

24% of boys interested in dance = 75 * 24/100 = 18

20% of girls interested in dance = 50 * 20/100 = 10

Total number of students, who are all not interested in dance,

= > 125 – (18 + 10) = 125 – 28 = 97

Required % = (97/125) * 100 = 77.6 %

29. C

Let Vasu's amount be x,

Saratha now having the amount of 1500,

=>(x*(65/100)*(2/5)) – 320 = 1500

= > x*(65/100)*(2/5) = 1820

= > x= 1820*(100/65)*(5/2) = Rs. 7000

Vasu initially having an amount of Rs. 7000

30. E

The maximum marks for each subject is 200

Kavi's Computer mark =92

Hindi Mark = 64% = (64/100)*200=128

The overall percentage of all three subjects together

=> 65% = (65/100)* 600= 390

Kavi's total mark,

Computer + Hindi + GK = 390

92 + 128 + GK = 390

=> GK = 390 – 220

=> GK =170

31. A

Total salary of Kiran and Varnan = Rs. 28000

Salary of Kiran = x, Salary of Varnan = 28000 – x

According to the question,

X*(106/100) + (28000 – x)*(108/100) = 29940

(106x/100) + (3024000 – 108x)/100 = 29940

106x + 3024000 – 108x = 2994000

3024000 – 2994000 = 2x

30000 = 2x

X = 15000

Kiran Salary = Rs. 15000

Varnan's salary = 28000 – 15000 = Rs. 13000

32. C

Yuva gave 25% of a certain amount of money to Ram

Ram=25% of Yuva

From the money Ram received, he spent 20% on buying books and 35% on buying a watch

Remaining=100-(20%+35%)= 45%

45% of amount= 2700

=>(45/100)* X=2700

=> X=6000

Ram's Total amount=6000

Ram=25% of Yuva

6000=(25/100)*Yuva

=>Yuva = 24000

33. C

The ratio of total number of undergraduate employees to the total number of graduate employees is 13:23

•Un gra : Gra =13:23

30 % of total undergraduate employees= 351

=>(30/100) X=351

=>X=351*100/30

=>X=1170 (Here X is undergraduate employees)

13's=1170

=>1's=1170/13= 90

Total number of graduate employees is,

=>23's= 23*90=2070

34. B

Correct Answer is: b)90%

Let, there are 100 days in each semester

then, Jaya's total attendance for four semesters = 4 × 80 = 320 days

To minimize her attendance in 3rd semester, we must assume 100% attendance in 4th semester.

Thus, minimum attendance required in 3rd semester = 320 – (60 + 70 + 100)

= 90 days

= i.e. 90 %

35. A

Let x be the total number of voters

Voters promised to A = 2x/5

Voters backed out = 15% of 2x/5

Voters promised to B = 3x/5

Voters backed out = 25% of 3x/5

Total No. of votes for A = 2x/5 – 15% of 2x/5 + 25% of 3x/5

= 49x/100

Total No. of votes for B = 3x/5 – 25% of 3x/5 +15% of 2x/5

= 51x/100

51x/100 – 49x/100 = 200 … (Given)

x = 10000

36. C

No. of blue balls = 100

No. of red balls = 50

No. of black ball = 50

Reduction in blue ball is 25%

Remaining blue balls = 75

Now, reduction in red balls = 50%

Remaining red balls = 25

Total remaining balls = 75 + 25+ 50 =150

Percentage of black balls = 50/150 *100 = 100/3 %

37. B

Let the numbers are a,b,c

Now according to the question

6a/11 = 22b/100 …(1)

And b = c/4 …(2)

We are also given by the value of c i.e. 2400

So the value of b would be 600

Now put b = 600 in equation (1)

6a/11 = (22 x 600)/100

6a/11= 132

a = 242

Now 45% of 242 = 108.9

38. A

Total number of votes polled = (1136 + 7636 + 11628) = 20400.

$\therefore$ Required percentage = $\left(\frac{11628}{20400} \times 100\right)\% = 57\%$.

39. E

Total quantity of milk and water is 120 litres.

In that percentage of water is 20%

=>120*(20/100)= 24 litres

Milk in the mixture= 120-24= 96 litres

The milkman gave 15 litres of this mixture to a customer and then added 15 litres of water to the remaining mixture

Milk= 15*96/100 = 12 litres

Remaining quantity=96-12=84 litres

The percentage of milk in the mixture= 84*100/120 = 70%

40. B

In first alloy, the copper= 28*(3/7)= 12 kg, Zinc =28*(4/7)=16 kg

In second alloy, the copper= 35*(3/5)=21 kg, zinc= 35*(2/5)=14 kg

=>33/(30+x) = 4/5

=>165=120+4x

=>45=4x

=>x=11.25

41. E

A vessel contains 56 litres of mixture of milk and water in the ratio of 3:4

Total quantity of milk= 56*(3/7)=24 litres

Total quantity of water= 56*(4/7) = 32 litres

Milk in 21 litres of mixture= 21*(3/7)=9

New mixture= 56- 21 + 15=50 litres

Milk in new mix= 24-9=15

% of milk in final mixture= (15/50)*100=30 %

42. D

Sum of the ratios=6+7=13 and 4+5=9

As both the containers have equal volume, each container's volume

=>13*9=117 litres

The ratio in the first container becomes

• 6*9 : 7*9 = 54:63

In the second container the ratio will be,

•13*4 : 13*5 =52:65

Adding both, we get

Water: Alcohol => (54+52) : (63+65) = 106:128 = 53:64

43. C

A container contains a mixture of water and milk in the ratio of 7:5

Water in the container= 9*(7/12)=21/4 litres

Milk in the container= 9*(5/12)= 15/4 litres

(7x- 21/4)/ (5x-15/4 + 9) = 7/9

=>X= 3

Initially, the container have 21 litres (7x= 7*3) of water.=21

44.D

Sol. Let income of B be x

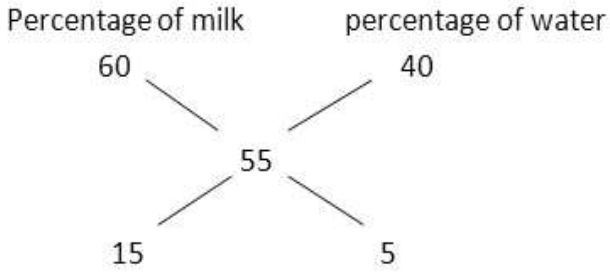
So, income of A and C would be 1.5x and 1.8x

Now, $1.5x + x + 1.8x = 86000$

$or, x = 20000$

$\therefore Income\ of\ C = 1.8 \times 20000 = 36000$

45. C



Milk: Water = 15:5 =3:1

Quantity of remaining milk = 3/4 *160 =120L

Quantity of remaining water = 1/4 *160 =40L

46. B

M : W

1st = 5 : 3

2nd = 4 : 3

1st container: m=5/8 ;w=3/8

2nd container: 3=4/7 ; w=3/7

Milk = 5/8 +4/7 =(35+52) / 56 =67/56

Water =3/8 +3/7 =(21+24) /56 =45 /56

Milk : water =67 : 45

47. C

Let the number of jackals be x

Then the number of hornbills = 80 – x

Each hornbill has two legs and each jackal has four legs

Therefore total number of legs = 4x + 2(80 – x) = 260

4x + 160 – 2x =260

2x =100

x = 50

48. A

Required percentage of water

$$= \frac{\frac{12}{100}\times 2 + \frac{7}{100}\times 3 + 0.5}{5.5}\times 100$$

$$= \frac{95}{5.5}$$

$$= \frac{190}{11}$$

$$= 17\frac{3}{11}\%$$

49. D

Loss or gain in the transaction

$= 6.75 \times 60 - (25 \times 6 + 35 \times 7)$

= 10 rs gain

50. D

Let 1kg of each is taken and melted

Required ratio $= \frac{\frac{5}{13}+\frac{5}{8}}{\frac{8}{13}+\frac{3}{8}}$

= 105/103

1. A's and B's age are in the ratio of 4:5. Four years hence, the ratio of their ages will become 5:6. What is B's present age?

a.25 years

b.20 years

c.30 years

d.40 years

e.None of these

2. Ten years before, the ratio of ages of A and B was 15:11. After 11 years from now, the ratio of their ages will be 9:8. What is the present age of B?

a.11 years

b.15 years

c.21 years

d.25 years

e.None of these

3. The average age of 3 girls is 10 years. This gets doubled if their mother's age is also included, then what is the age of the mother?

a.30 years

b.80 years

c.45 years

d.50 years

e.None of these

4. The ages of Sulekha and Arunima are in the ratio of 9 : 8 respectively. After 5 years, the ratio of their ages will be 10 : 9. What is the difference in years between their ages ?

a. 4 yr

b. 5 yr

c. 6 yr

d. 7 yr

e. None of these

5. The respective ratio of the ages of Anubha and her mother is 1 : 2. After 6 years, the ratio of their ages will be 11 : 20. 9 yr before, what was the respective ratio of their ages?

a. 3:5

b. 2:7

c. 1:4

d. 2:5

e. None of these

6. The respective ratio of the present age of Swati and Trupti is 4:5. Six years hence, the respective ratio of their ages will be 6:7. What is the difference between their ages?

a. 2 yr.

b. 3 yr.

c. 4 yr.

d. Cannot be determined

e. None of these

7. Saniya's grandfather was 8 times older to her 16 years ago. He would be 3 times of her age 8 years from now. What was ratio of ages of Saniya and her grandfather 8 years ago.

a. 11:54

b. 11:53

c. 55:11

d. 53:11

e. None of these

8. The ages of two brothers differ by 20 years. If 5 years ago, the elder one be 5 times as old as the younger one, their present ages (in years) are respectively?

a. 25,20

b. 30,10

c. 20,20

d. 20,10

e. Cannot determined

9. There are 3 sister. If age of kavitha is 25 years and twice the age of geetha and her sister sita is 62, and twice the age of sita and geetha is 64. Then what is the age of youngest one?

a. 20

b. 24

c. 26

d. 22

e. None of these

10. The present age of Romila is one-fourth that of her father. After 6 yr, the father's age will be twice the age of Kapil. If Kapil celebrated fifth birthday 8 yr ago, what is Romila's present age?

a. 7 yr

b. 7.5 yr

c. 8 yr

d. 8.5 yr

e. None of these

11.The total present ages of P and Q is 25 year more than the present age of R. If at present, Q is 5 year older than R, what is P's present age (in year)?

a. 20

b. 40

c. 35

d. 30

e. Data provided are not adequate to answer the question

12. Present age of Jyoti is 4 times the age of Sonia. After 12 yr, Jyoti will be 3 times as old as Sonia. What is the present age of Sonia?

a. 28 yr

b. 24 yr

c. 20 yr

d. 16 yr

e. None of these

13. The ages of Shirish and Kunder are in the ratio of 5:6, respectively. After 8 years, the ratio of their ages will be 7:8. What is the difference in their ages?

a. 4 yr

b. 8 yr

c. 10 yr

d. 12 yr

e. None of these

14. 6 year ago, the respective ratio between the ages of Sia and her father that time was 1:7. The difference between the ages of Sia's father and Sia's is 36 yr. What will be Sia's age 5yr from now?

a. 13 yr

b. 15 yr

c. 21 yr

d. 17 yr

e. None of these

15.The age of Mira, Tina and Sania are in the ratio 6:4:7, respectively. If the sum of their ages is 34 yr, What is Sania's age?

a. 12 yr

b. 10 yr

c. 18 yr

d. 8 yr

e. None of these

16. The respective ratio between the present ages of Ram and Rakesh is 6:11. Four year ago, the ratio of their ages was 1:2, respectively.What will be Rakesh's age after five years?

a. 45 yr

b. 29 yr

c. 49 yr

d. Cannot be determined

e. None of these

17. The present ages of Vishal and Shekhar are in the ratio of 14:17 respectively. Six years from now, their ages will be in the ratio of 17:20, respectively. What is Shekhar's present age?

a. 17 yr

b. 51 yr

c. 34 yr

d. 28 yr

e. None of these

18. The respective ratio of the present ages of a mother and daughter is 7:1. Four years ago, the respective ratio of their ages was 19:1. What will be the mother's age four years from now?

a. 42 yr

b. 38 yr

c. 46 yr

d. 36 yr

e. None of these

19. The age of Bhakti and Neil are in the ratio of 8:7, respectively. After 6 yr, the ratio of their ages will be 19:17. What is the difference in their ages?

a. 4 yr

b. 8 yr

c. 10 yr

d. 12 yr

e. None of these

20. The ages of Raghav and Priti are 40 years and 60 years, respectively. How many years before the ratio of their ages was 3 : 5?

a. 15 years

b. 20 years

c. 37 years

d. 10 years

e. 16 years

21.1 year ago, a mother was 4 times older to her son. After 6 years, her age becomes more than double her son's age by 5 years. The present ratio of mother and son age will be:

a. 13 : 12

b. 3 : 1

c. 11 : 3

d. 25 : 7

e. 7:25

22. The age of Nishi and Vinnee are in the ratio of 6:5, respectively. After 9 yr, the ratio of their ages will be 9:8. What is the difference in their ages?

a. 9 yr

b. 7 yr

c. 5 yr

d. 3 yr

e. None of these

23. At present, Meena is eight times her daughter's age. Eight years from now, the ratio of the ages of Meena and her daughter will be 10:3, respectively. What is the Meena's present age?

a. 32 yr

b. 40 yr

c. 36 yr

d. Cannot be determined

e. None of these

24. The ages of Melwyn and Louis are in the ratio of 7:10, respectively. After 6 years, the ratio of their ages will be 17 : 23. What is the difference in their ages?

a. 8 yr

b. 4 yr

c. 12 yr

d. 10 yr

e. None of these

25. The ages of Ranjana and Rakhi are in the ratio of 15:17, respectively. After 6 yr, the ratio of their ages will be 9:10. What will be the age of Ranjana after 6 yr?

a. 40 yr

b. 30 yr

c. 34 yr

d. 36 yr

e. None of these

26. The average age of a man and his son is 27 yr. The ratio of their ages is 8:1, respectively. What will be the son's age after 6 years?

a. 6 yr

b. 14 yr

c. 12 yr

d. 8 yr

e. None of these

27. The present age of Amit and his father are in the ratio 2:5, respectively. Four years hence, the ratio of their ages will become 5:11, respectively. What was the father's age five year ago?

a. 40 yr

b. 45 yr

c. 30 yr

d. 35 yr

e. None of these

28. The ratio of the present ages of Anuj and Sandhya is 13:17, respectively. Four years ago, the respective ratio of their ages was 11:15. What will be the respective ratio of their ages six years hence?

a. 3:4

b. 7:8

c. 5:4

d. 6:5

e. None of these

29. The ratio of the age of Ram and Shyam is 2 : 3 and that of Shyam and Sita is 6: 9. If the average Of Ram and Sita's age is 52 years then find the age of Shyam?

a. 24

b. 42

c. 48

d. 54

e.None of these

30. The average age of the family of five members is 24. If the present age of youngest member is 8 year, then what was the average age of the family at the time of the birth of the youngest member?

a. 20 yr.

b. 16 yr.

c. 12 yr.

d. 18 yr.

e. 21 yr.

31. Three years ago the average age of A and B was 18 years. While C joining them now, the average becomes 22 years. How old (in years) is C now?

a. 24

b. 27

c. 28

d. 30

e.None of these

32. The present ages of three persons are in proportions 4 : 7 : 9. Eight years ago, the sum of their ages was 56. Find their present ages (in years).

a. 8, 20, 28

b. 16, 28, 36

c. 20, 35, 45

d. 24,42, 54

e. None of these

33.The sum of present ages of father and his son is 57 years. 6 years ago, the father was 4 times as old as his son at that time. The present age of son is?

a. 12 years

b. 9 years

c. 15 years

d. 16 years

e. 18 years

34. The difference between the present ages of Arun and Deepak is 14 years. Seven years ago the ratio of their ages was 5:7 respectively. What is Deepak's present age?

a. 49 years

b. 42 years

c. 63 years

d. 35 years

e. None of these

35. The present ages of three colleagues are in proportions 3 : 5 : 7. Four years ago, the sum of their ages was 48. find their present ages (in years) ?

a. 12 , 20 and 28 years

b. 13 , 15 and 23 years

c. 11 , 16 and 19 years

d. 20, 24 and 27 years

e. None of these

36. One year ago, the ratio of Gaurav's and Sachin's age was 6: 7 respectively. Four years hence, this ratio would become 7: 8. How old is Sachin ?

a. 30 years

b. 36 years

c. 25 years

d. 24 years

e. None of these

37. Abhay's age after six years will be three-seventh of his father's age. Ten years ago the ratio of their ages was 1: 5. What is Abhay's father's age at present?

a. 45 years

b. 55 years

c. 50 years

d. 40 years

e. None of these

38. The ratio of the Mother's age to her daughter's age is 9 : 5. The product of their ages is 1125. The ratio of their ages after five years will be?

a. 1 : 3

b. 2 : 3

c. 3 : 4

d. 5 : 3

e. None of these

39. The ratio of the present ages of two Friends is 2 : 3 and six years back, the ratio was 1 : 3. What will be the ratio of their ages after 4 years?

a. 1 : 3

b. 3 : 4

c. 2 : 3

d. 3 : 5

e. None of these

40. The age of father 10 years ago was thrice the age of his son. Ten years hence, father's age will be twice that of his son. The ratio of their present ages is?

a. 5 : 2

b. 7 : 3

c. 9 : 2

d. 13 : 4

41.Sum of present ages of P and Q is 60 years. 5 years hence their ages will be in the ratio 3: 4. Find P's present age?

a. 20 years

b. 28 years

c. 25 years

d. 26 years

e. None of these

42.Five years ago the ratio of the ages of Omkar and Nitin was 8 : 7. Three years hence, the ratio of their ages will be 12 : 11. what is Nitin's age at present?

a. 12 years

b. 15 years

c. 8.5 years

d. 19 years

e. None of these

43.In a family there are two children Navya and Reet. The ratio between the present age of Navya and Reet is 5 : 6. After 8 years the ratio of their ages will be 7 : 8. Find their total age of Navya and Reet after 10 years?

a. 56

b. 66

c. 60

d. 45

e. None of these

44.Sum of present ages of A,B and C is 72 years. If 4 years ago, the ratio of their ages were 1 : 2 : 3 respectively, find A's present age?

a. 18 years

b. 14 years

c. 10 years

d. 20 years

e. None of these

45.The total ages of Ankit , Narendra and Satendra is 96 years. Five years ago, the ratio of their ages was 2 : 3 : 4. What is the present age of Satendra?

a. 21 years

b. 32 years

c. 41 years

d. 53 years

e. None of these

46.Two years ago, the age of Rajan was 4 times that of his son. After 5 years, the ratio of ages of Rajan to his son will be 5:2. What is the present age of his son?

a. 8 years

b. 14 years

c. 7 years

d. 9 years

e. None of these

47.Rohit was 4 times as old as his son 8 years ago. After 8 years, Rohit will be twice as old as his son. What are their present ages?

a. 12 years, 30 years

b. 16 years, 40 years

c. 20 years, 35 years

d. 15 years, 28 years

e. None of these

48.The sum of the present ages of a father and his son is 60 years. Six years ago, father's age was five times the age of the son. After 6 years, son's age will be?

a. 12 years

b. 14 years

c. 18 years

d. 20 years

e. None of these

49.What is Aman's present age, if after 20 years his age will be 10 times his age 10 years back?

a. 6.2 years

b. 7.7 years

c. 13.3 years

d. 10 years

e.None of these

50.Three years from now, Deepa will be three times as old as Emma and Emma will be six years younger than Femina. If Deepa's age is three years less than twice Femina's age, how old is Femina?

a. 9

b. 15

c. 21

d. 27

e. 33

Answers with Solution

Solution (1-50)

1. B

Let the present age of A and B are 4x and 5x

According to the question,

(4x+4) / (5x+4) = 5/6

24x+ 24 = 25x + 20

x = 4

Hence, the present age of 5(4) = 20 years

2. C

The present age of A and B are, (15x+10) and (11x+10)

According to the question,

(15x + 10 +11)/ (11x+ 10 + 11) = 9/8

120x + 168 = 99x + 189

21 x = 21

∴ x =1

Hence, the present age of Bis 11 (1) + 10 = 21 years

3. D

The average age, when the age of the mother is included is 10 × 2 = 20

∴ the total age = 4 × 20 = 80

Hence, the mother's age = 80 – 30 = 50 years

4. B

Let the ages of Sulekha is 9x and Arunima's age is 8x

=> (9x + 5)/(8x + 5) = 10/9

=> 81x + 45 =80x + 50

=> x = 5 yr

Sulekha's age = 9 * 5 =45 yr

Arunima's age = 8 * 5 = 40 yr

Difference = 45 – 40 = 5 yr.

5. D

Let the age of Anubha's is x yr and her mother's age is 2x

After 6 years,

=> (x + 6)/(2x + 6) = 11/20

=> 20x + 120 = 22x + 66

=> 2x = 54

=> x= 27

Before 9 yr,

Anubh's age = 27 – 9 = 18 yr

Anubha's mother's age = 54 – 9 = 45 yr

Ratio = 18/45 = 2:5

6. B

Let the present age of Swati and Trupti is 4x and 5x respectively

After 6 yr,

=> (4x + 6)/(5x + 6) = 6/7

=> 28x + 42 = 30x + 36

=> 2x = 6

=> x =3 yr

Present age of Swati = 4 * 3 =12 yr

Present age of trupti = 5 * 3 = 15 yr

Difference = 15 – 12 = 3 yr.

7. B

Let, Saniya age 16 years ago = x,

Grandfather's age 16 years ago = 8x.

8 years from now, 3(x+16+8) = (8x+16+8)

=> x = 48/5

8 years ago ratio was $= \frac{x+8}{8x+8} = \frac{\frac{48}{5}+8}{8*\frac{48}{5}+8} = \frac{88}{424} = \frac{11}{53}$

8. B

Let their ages be x and (x + 20) years.

5 (x – 5) = (x + 20 – 5)

4x = 40

x = 10

Their present ages are 30 years and 10 years

9. A

2g+s=62; 2s+g =64

From this geetha=20, sita =22

Then ratio = 20:22:25, the youngest one is 20 years.

10. C

Kapil's present age = 8 + 5 = 13 yr

Kapil's age after 6 Yr = 13 + 6 =19 yr

Romila's father age = 2 * 19 = 38 yr

Father's present age = 38 – 6 = 32 yr

Romila's present age = 1/4 * 32 = 8 yr

11. A

Present age of P + Q = 25 + R...(1)

Present age of Q = 5 + R

From Eq. (1),

=> P + 5 + R = 25 + R

=> P = 20 years.

12. B

Let Sonia's present age = x yr

Jyoti's present age = 4x yr

∴ A/Q (for after 12 yrs)

=> (4x + 12) = 3 (x + 12)

=> 4x + 12 = 3x + 36

=> x = 24 yr

13. A

Let the age of Shirish = 5x and age of Kunder = 6x

A/Q:

=> (5x + 8)/(6x + 8) = 7/8

=> 40x + 64 = 42x + 56

=> 2x = 8

=> x = 4 yr

Age of Shirish = 5 * 4 = 20 yr

Age of Kunder = 6 * 4 = 24 yr

Difference = 24 – 20 = 4 yr.

14. D

Let Sia's age 6 yr ago = x yr and her father age = 7x yr

=>(7x + 6) - (x + 6) = 36

=> 7x + 6 – x – 6 = 36

=> 6x = 36

=> x = 6

Sia's present age = 6 + 6 = 12 yr

Sia's age after 5 yr = 12 + 5 = 17 yr.

15. E

Let the age of Mira, Tina and Sania is 6x, 4x and 7x respectively.

=> 6x + 4x + 7x = 34

=> 17x = 34

=> x = 2 yr

Sania's age = 7 * 2 = 14 yr.

16. C

Let present age of Ram = x yr and present age of Rakesh = y yr.

=> x/y = 6/11

=> x = 6y/11

Four years ago;

(x - 4)/(y - 4) = ½

=> 2x – 8 = y – 4

=> 2 * (6y/11) - 8 = y – 4

=> 12y – 88 = 11y – 44

=> y = 44

Rakesh's age after 5 year = 44 + 5 = 49 yr

17. C

Let the present age of Vishal and Shekhar is 14x and 17x respectively.

After six years;

(14x + 6)/(17x + 6) = 17/20

=> 280x + 120 = 289x + 102

=> 9x = 18

=> x = 2 yr

Shekhar's present age = 17 * 2 = 34 yr.

18. C

Let the present age of mother and daughter is 7x yr and x yr, respectively.

4 yrs ago;

(7x - 4)/(x - 4) = 19/1

=> 7x – 4 = 19x – 76

=> 12x = 72

=> x = 6 yr

Mother's present age = 7 * 6 = 42 yr

After 4 years mother's age = 42 + 4 = 46 yr.

19. A

Let the Bhakti's age = 8x and Neil's age = 7x

After 6 yrs;

(8x + 6)/(7x + 6) = 19/17

=> 136x + 102 = 133x + 114

=> 3x = 12

=> x = 4 yr

Bhakti's age = 8 * 4 = 32 yr

Neil's age = 7 * 4 = 28 yr

Difference = 32 – 28 = 4 yr

20. D

Let a year ago, the ratio of Raghav and Priti's ages was 3: 5.

$\frac{40-a}{60-a} = \frac{3}{5}$

$\Rightarrow 200 - 5a = 180 - 3a$

$\Rightarrow a = 10$ years

21. D

Let present age of mother and son be x and y years respectively.

Then, $x-1 = 4(y-1)$

$\Rightarrow x = 4y - 3$ ...(i)

And, $x + 6 = 2(y+6) + 5$ ...(ii)

$\Rightarrow 4y - 3 = 2y + 11$

$\Rightarrow y = \frac{14}{2} = 7$ years

And, x = 25 years

And, Required ratio = 25: 7

22. D

Let the age of Nishi = 6x and age of Vinnee = 5x

After 9 yr,

=> (6x + 9)/(5x +9) = 9/8

=> 48x + 72 = 45x + 81

=> 3x = 9

=> x = 3 yr.

Nishi's age = 6 * 3 = 18 yr

Vinnee's age = 5 * 3 = 15 yr.

Difference = 18 – 15 = 3 yr.

23. A

Let Meena's daughter age = x yr. And Meena's age = 8x

After 8 yr,

=> (8x + 8)/(x + 8) = 10/3

=> 24x + 24 = 10x + 80

=> 14x = 56

=> x = 4 yr.

Present age of Meena = 8 * 4 = 32 yr.

24. C

Let the present age of Melwyn and Louis is 7x and 10x respectively.

After 6 years,

=> (7x + 6)/(10x + 6) = 17/23

=> 161x + 138 = 170x + 102

=> 9x = 36

=> x = 4 yr

Age difference between Melwyn and Louis = (10x – 7x)

= 3x = 3 * 4 = 12 yr.

25. D

Let the age of Ranjana and Rakhi is 15x and 17x respectively.

After 6 yerar,

=> (15x + 6)/(17x + 6) = 9/10

=> 153x + 54 = 150x + 60

=> 3x = 6

=> x = 2 yr.

The age of Ranjana after 6 years = 15 * 2 + 6 = 36 yr.

26. C

Avg age of man and his son is 27 yrs

=> (man + son)/2 = 27

=> man + son = 54

=> man = 54 – son

Ratio of man and son is 8:1

=> (54 - son)/son = 8/1

=> 54 – son = 8son

=> 9 son = 54

=> son = 6 yr.

Age of son after 6 yr. = 6 + 6 = 12 yr.

27. D

Let the present age of Amit = 2x and present age of Amit father's age = 5x

After 4 yr,

=> (2x + 4)/(5x + 4) = 5/11

=> 22x + 44 = 25x + 20

=> 3x = 24

=> x = 8 yr.

Amit father's age before 5 years = 5 * 8 = 40 – 5 = 35 yr.

28. E

Let the present ages of Anuj and Sandhya is 13x and 17x respectively.

Four years ago,

=> (13x - 4)/(17x - 4) = 11/15

=> 195x – 60 = 187x – 44

=> 8x = 16

=> x = 2 yr

Anuj's present age = 13 * 2 = 26 yr

Sandhya's present age = 17 * 2 = 34 yr

Ratio = (26 + 6)/(34 + 6) = 32/40 = 4:5

29. C

Ratio of the age of Ram: Shyam: Sita = 4x: 6x: 9x

Avg of Ram and Sita = 13x/2 = 6.5x = 52

By solving x = 8

So age of Shyam = 6 * 8 = 48 Years

30. A

Total age of the five members = 5 X 24 = 120 yr.

8 yr. Ago, Total age of the family = 120 – 40 = 80 yr.

=> Average = 80/4 = 20 yr.

31. A

Three years ago,

The sum of the age of A and B

= 18 X 2 = 36 years

∴ Sum of the present age of A and B

= 36 + 6 = 42 years

Sum of the present age of A , B and C

= 3 x 22 = 66 years

∴ present age of C = 66 – 42 = 24 years

32. B

Let the 3 persons be A, B and C.

Given : The ratio of the present ages of 3 persons is 4:7:9

Let the present age of A,B and C be 4x, 7x and 9x years respectively.

A : B : C => 4x : 7x : 9x

Given, 8 years ago, the sum of their ages was 56.

8 years ago, the ratio of the ages is

A : B : C => 4x – 8 : 7x – 8 : 9x – 8

Given, the sum of the above ages was 56.

4x - 8 + 7x - 8 + 9x - 8 = 56

=> 20x – 24 = 56

=> 20x = 56 + 24

=> 20x = 80

=> x = 4.

So, present ages of A, B and C be 4 * 4 , 7 * 4 , 9 * 4 i.e. 16, 28 and 36 respectively.

33. C

Let son's present age = p years

∴ Present age of father = (57 – p) years

ATQ,

(57 – p – 6) = 4 (p – 6)

⇒ 51 – p = 4p – 24

⇒ p = 15 years

34. E

Seven years ago,

Let Arun's and Deepak's age be 5x and 7x years respectively.

∴ Arun's Present age

= (5x + 7) years

Deepak's Present age

= (7x + 7) years

According to the question,

7x + 7 – 5x – 7 = 14

=> 2x = 14

=> x = 7

∴ Deepak's present age = 7x + 7

= 7 X 7 + 7 = 56 years

35. A

Let the present age of three colleagues are : 3x, 5x and 7x

(3x – 4) + (5x – 4) + (7x – 4) = 48.

15x – 12 = 48 ⇒ 15x = 60 ⇒ x = 4.

Their present ages are 12 years, 20 years and 28 years respectively.

36. B

Let Gaurav's and Sachin's ages one year ago be 6x and 7x years respectively.

Then, Gaurav's age 4 years hence = (6x + 1) + 4 = (6x + 5) years.

Sachin's age 4 years hence = (7x + 1) + 4 = (7x + 5) years.

(6x+5) : (7x + 5) = 7:8

=> 8(6x+5) = 7 (7x + 5)

=> 48x + 40 = 49x + 35

=> x = 5.

Hence, Sachin's present age = (7x + 1) = 36 years

37. C

Let the ages of Abhay and his father 10 years ago be x and 5x years respectively.

Then, Abhay's age after 6 years = (x + 10) + 6 = (x + 16) years.

Father's age after 6 years = (5x + 10) + 6 = (5x + 16) years.

Then,

(x + 16) : (5x + 16) = 3:7

=> 7(x + 16) = 3 (5x + 16)

=> 7x + 112 = 15x + 48

=> 8x = 64

=> x = 8.

Hence, Abhay's father's present age = (5x + 10) = 50 years.

38. D

Let the present ages of Mother and daughter be 9x and 5x respectively.

$9x \times 5x = 1125 \Rightarrow 45x2 = 1125 \Rightarrow x2 = 25 \Rightarrow x = 5.$

Required ratio= (9x + 5) : (5x + 5) ⇒ 50 : 30 ⇒ 5 : 3.

39. B

Let the present ages of the two Friends be 2x and 3x respectively.

Then, $\frac{2x-6}{3x-6} = \frac{1}{3}$

⇒ 6x – 18 = 3x – 6 ⇒ 3x = 12 ⇒ x = 4.

So, required ratio = (2x + 4) : (3x + 4) ⇒ 12 : 16 ⇒ 3 : 4.

40. B

Let the ages of father and son 10 years ago be 3x and x years respectively.

Then,

(3x + 10) + 10 = 2[(x + 10) + 10]

=> 3x + 20 = 2x + 40

=> x = 20.

.'. Required ratio = (3x + 10) : (x + 10) = 70 : 30 = 7 : 3.

41. C

Sum of the present ages of P and Q = 60 years

So, Sum of their ages after 5 years = 60 + (5 * 2) = 70 years

After 5 years, ratio of Ages of P and Q will be 3:4

Therefore,

P's age after 5 years = (3/7) * 70 = 30 years.

And, P's present age = 30 -5 = 25 years.

42. D

Let the age of Omkar and Nitin five years ago 8x and 7x respectively.

Omkar's present age = (8x + 5)

Nitin's present age = (7x + 5)

Now, as per the equation

Then, $\frac{(8x + 5) + 3}{(7x + 5) + 3} = \frac{12}{11} \Rightarrow \frac{(8x + 8)}{(7x + 8)} = \frac{12}{11}$

On cross multiplication, we get

$\Rightarrow$ 88x + 88 = 84x + 96

$\Rightarrow$ 4x = 8 $\Rightarrow$ x = 2.

$\therefore$Nitin's present age = (7x + 5) = (7 × 2 + 5) = 19 years.

43. E

Let the present age of Navya = 5x, Reet = 6x

After 8 years,

5x + 8 : 6x + 8 = 7 : 8

(5x + 8) 8 : (6x + 8) 7

40x + 64 = 42x + 56

64 – 56 = 42x – 40x

8 = 2x

x = 4

Present age of Navya = 20, Reet = 24

After 10 years the total of their ages = 20 + 10 + 24 + 10 = 64

44. B

Sum of present ages of A, B and C is = 72 years

Therefore, Sum of their ages 4 years ago = 72 – (4 * 3)= 60 years.

4 years ago ratio of the ages of A , B and C was = 1:2:3

Therefore, A's age four years ago = (1/6) * 60 = 10 years.

So, A's present age =10 + 4 = 14 years.

45. C

Let the ages of Ankit, Narendra and Satendra 5 years ago be 2x, 3x and 4x years respectively.

So, total of their present ages will be,

(2x + 5) + (3x +5) + (4x + 5) = 96

9x + 15 = 96

9x = 81

x = 9.

So, the present age of Satendra = 4x + 5 = 4 × 9 + 5 = 41 years.

46. D

Let age of Rajan be x and that of his son be y

So as per the question:

(x – 2) : (y – 2) = 4 : 1 or 4 (y – 2)= x – 2 (this is the first equation)

(x + 5) : (y + 5) = 5/2 or 5(y + 5)= 2(x + 5) (this is the second equation)

Solving both of them we get x = 30 and y = 9

So present age of the son is 9 years

47. B

Let son's age 8 years ago be x years.

Then, Rohit's age 8 years ago = 4x years.

Son's age after 8 years = (x + 8) + 8 = (x + 16) years.

Rohit's age after 8 years = (4x + 8) + 8 = (4x+ 16) years.

ATQ,

2(x + 16) = 4x + 16

=> 2x = 16 => x = 8.

Hence, son's 'present age = (x + 8) = 16 years.

Rohit's present age = (4x + 8) = 40 years

48. D

Let the present ages of son and father be x and (60 - x) years respectively.

Then,

(60 - x) - 6 = 5(x - 6)

=> 54 - x = 5x - 30

=> 6x = 84

=> x = 14.

.'. Son's age after 6 years = (x + 6) = 20 years.

49. C

Let Aman's present age be x

Aman's age before 10 years = x - 10)

Aman's age after 20 years = (x + 20)

We are given that, Aman's age after 20 years (x + 20) is 10 times his age 10 years back (x – 10)

Therefore, (x + 20) = 10 (x – 10)

Solving the equation, we get x + 20 = 10x – 100

9x = 120, x = 13.3 years

50. A

D+3=3(E+3)

E+3=(F+3)-6

D=2F-3.

E+3=F-3 or E=F-6.

D+3=3(F-6+3)

D+3=3F-9

D=3F-12.

now, we have D=2F-3.

2F-3=3F-12

9=F

1. Rita's present age is four times her daughter's present age and two-third of her mother' s present age. The total of the present ages of all of them is 154 years. What is the difference between Rita's present age and Rita's mother's present age ?

a. 28 yr

b. 43 yr

c. 32 yr

d. Cannot be determined

e. None of these

2. The average age of Akhil, Parag and Monty is 24years. 2 year ago, average age of Akhil and Monty was 23yrs. 2yrs hence average age of Parag and Monty is 26 years. Find the present age of Monty?

a. 26

b. 16

c. 36

d. 46

e. None of these

3. The present age of Leelavati is one-fourth that of her father. After 6 years the father's age will be twice the age of Lokesh. If Lokesh celebrated fifth birthday 8 years ago. What is Leelavati's present age?

a. 6

b. 18

c. 8

d. 4

e. Cannot be determined

4. The sum of ages of committee members (including juniors and seniors) is 360 years. The total ages of juniors and seniors are in the ratio 2:1 and the ages of vice president and president are in the ratio 5:7.What will be the age of president of the committee?

a. 60

b. 77

c. 75

d. 70

e. Data inadequate

5. Difference between the ages of anitha and rahul is same as the difference between the ages of rahul and karthik. If the difference between the ages of anitha and karthik is 8 years. If their sum of age 48, then what are the ratio of ages of three people?

a. 5:3:5

b. 5:3:3

c. 5:3:4

d. 5:6:4

e. None of these

6. Bhanu's brother is 3 years elder to him. His father was 28 years of age when his sister was born. His mother was 26 years of age when he was born. His sister was 4 years of age when his brother was born, the ages of Bhanu's father and mother respectively when his brother was born?

a. 32 years and 23 years

b. 35 years and 29 years

c. 38 years and 29 years

d. 35 years and 33 years

e. 28 years and 26 years

7. Raman's present age is three times his daughter's and 9/13 of his mother's present age. The sum of the present ages of all three of them is 125 yr. What is the difference between the present ages of Raman's daughter and Raman's mother?

a. 45 yr.

b. 40 yr.

c. 50 yr.

d. Cannot be determined

e. None of these

8. The ratio of present ages of Akhil and Anil is 7 : 9 and present age of Amit is equal to the average ages of Akhil and Anil after 2 years. If the ratio of present age of Amit and age of Anil after four years is 6 : 7 then what will be the ratio of age of Akhil after four years to that of present age of Amit?

a. 13 : 14

b. 14 : 13

c. 6 : 7

d. 7 : 6

e. None of these

9. In three more years, Mridul's grandfather will be six times as old as Mridul was last year. When Mridul's present age is added to his grandfather's present age, the total is 68. How old is each one now?

a. 10 years

b. 11 years

c. 15 years

d. 14 years

e. None of these

10. Meetali and Neeraj got married 30 years ago. Meetali is 4 years younger than Neeraj. When they got married the difference between 2 times of the Meetali's age and 1.5 times of the Neeraj's age was 5 years. Find the present age of Meetali and Neeraj.

a. 42, 46

b. 48, 52

c. 55, 59

d. 60, 64

e. None of these

11. The ratio of the ages of Esha and her mother is 1 : 4 and the ratio of the ages of Esha's mother and her brother is 9 : 1. If Esha's brother is 5 years younger than Esha. What will be the age of Esha's mother after 4 years?

a. 36 years
b. 40 years
c. 45 years
d. 50 years
e. None of these

12. In a family, a couple has a son and daughter. The age of the father is three times that of his daughter and the age of the son is half of his mother. The wife is nine years younger to her husband and the brother is seven years older than his sister. What is the age of the mother?

a. 40 years
b. 45 years
c. 50 years
d. 60 years
e. 65 years

13. A family consists of paternal grandparents, parents and three grandchildren. The average age of the grandparents is 70 years, that of the parents is 40 years and that of the grandchildren is 10 years. What is the average age of the family?

a. 34(4/7) years
b. 35(5/7) years
c. 36(6/7) years
d. Cannot be determined
e. None of these

14. The average age of Manoj and Rima at the time of their marriage was 25 years. A son was born to them two years after their marriage. The present average age of all the three of them is 24 years. How many years is it since the couple got married?

a. 5 years
b. 6 years
c. 7 years
d. 8 years
e. 9 years

15. If the ages of P and R are added to twice the age of Q, the total becomes 59. If the ages of Q and R are added to thrice the age of P, the total becomes 68 and if the age of P is added to thrice the age of Q and thrice the age of R, the total becomes 108. What is the age of P?

a. 19 years
b. 15 years
c. 17 years
d. 12 years
e. None of these

16. The ages of the members of a joint family of eight people added up to 231 years. Three years later, one member died at the age of 60 years and a child was born at the same time when person was died. After another three years, one more member died, again at 60, and a child was born at the same time when person was died. The current average age of this eight-member joint family is nearest to?

a. 22 years
b. 25 years
c. 20 years

d. 23 years

e. 24 years

17. Ravi has three children: two daughters and one son. All were born on the same date in different years. The sum of the ages of the two daughters today is smaller than the age of the son today, but a year from now the sum of the ages of the daughters will equal the age of the son. Three years from today, the difference between the age of the son and the combined ages of the daughters will be?

a. 1

b. 2

c. 3

d. –2

e. –1

18. The average age of board of directors of a company having 15 directors was 48 years. When a director aged 56 resigned from the board of directors another director died on the same day. A new director joined board of directors aged 36. Next year the average age of all 14 directors was found to be 48 years. The age of late director at the time of his death was?

a. 48 years

b. 42 years

c. 45 years

d. 40 years

e. None of these

19. Eight years ago, Poorvi's age was equal to the sum of the present ages of her one son and one daughter. Five years hence, the respective ratio between the ages of her daughter and her son that time will be 7:6. If Poorvi's husband is 7 years elder to her and his present age is three times the present age of their son, what is the present age of the daughter?

a. 15 years

b. 23 years

c. 19 years

d. 27 years

e. 13 years

20. 15 years ago the average age of a family of four members was 40 years. Two children were born in this span of 15 years. The present average of the family remains unchanged. Among the two children who were born during the 15 years, if the older child at present is 8 years older than the younger one, what is the ratio of the present age of the older child to the present age of the younger Child?

a. 9:4

b. 7:3

c. 7:6

d. 7:4

e. 9:5

21. There were 15 students in a class. When the ages of a teacher and anew boy are added, the average age of the class increases by 10 per cent while it remains the same when only the age of a boy is added. If the

teacher's age is eight more than twice the age of the new boy, then find the initial average age of the class.

a. 15.4 years

b. 16.5 years

c. 11.4 years

d. Can't be determined

e. None of these

22. Four times the difference in ages of C and A is one more than the age if B. Percentage of A's age to C's age is 75%. If ratio of B's age 5 years hence to C's age 1 year ago is 4 : 3. Find the average of ages A and C?

a. 20 b. 19 c. 12 d. 14 e. 8

23. When the couple was married the average of their ages was 25 years. When their first child was born, the average age of family became 18 years. When their second child was born, the average age of the family became 15 years. Find the average age of the couple now?

a. 31 b. 27 c. 28 d. 29 e. 30

24. When a couple was married, their average age was 22 years. When their first child was born, the average age of all the three became16 years. When their second child was born, the average of all 4 became 15 years. Find the average age of couple at the time when their second child was born.

a. 20 b. 28 c. 30 d. 32 e. 25

25. The average age of a group of 20 men is 22 years. If two men whose age are 24 and 31 years respectively join the group, the average age of new group increase or decrease by?

a. No increment , no decrement

b. increase by 0.5 year

c. decrease by 0.5 year

d. increase by 1 year

e. decrease by 1 year

26. The present age of a son is 40% of his father age. And the age of his mother is 220% of his age. The average age of three members is 38. Find the present age of mother.

a. 50 years

b. 22 years

c. 10 years

d. 44 years

e. None of these

27. The average age of a husband-wife and their son was 42 years. The son got married and exactly after 1 year a child was born to them. When the child became 5 years old, the average age of the family became 36 years. What was the age of bride at the time of marriage?

a. 30yrs b. 27yrs c. 25yrs d. 22yrs e. None

28. A says, "If you reverse my own age, the figures represent my Brother's age. He is, of course, senior to

me and the difference between our ages is one-eleventh of their sum." Then A's brother's age is?

a. 45 b. 54 c. 25 d. 52 e. None

29. If the two digits of the age of Mr. X are reversed then the new age so obtained is the age of his wife. 1/11 of the sum of their ages is equal to the difference between their ages. If Mr. X is elder than his wife then find the difference their ages.

a.10yrs b.13yrs c.12yrs d.9yrs e. None of these

30. The average age of Mano and Gautham is 35 years. If Karthik replaces Mano, the average age becomes 32 years and if Karthik replaces Gautham, then the average age becomes 38 years. If the average age of Sharmi and Isha be half of the average age of Mano, Gautham and Karthik, then the average age of all the five people is?

a. 23 b. 20 c. 28 d. 32 e. None of these

31. The product of the present ages of Sakshi and Nidhi is 320. Eight years from now, Sakshi's age will be three times the age of Nidhi. What was the age of Sakshi when Nidhi was born?

a. 40 years

b. 32 years

c. 48 years

d. 36 years

e. 26 years

32. The ages of the members of a joint family of eight people added up to 224 years. Three years later, one member died at the age of 56 years and a child was born at the same time when person was died. After another three years, one more member died, again at 56, and a child was born at the same time when person was died. The current average age of this eight-member joint family is?

a. 22 years

b. 25 years

c. 20 years

d. 23 years

e. 24 years

33. If the ages of 'A' and 'C' are added to twice the age of B, the total becomes 59. If the ages of 'B' and 'C' are added to thrice the age of A, the total becomes 68 and if the age of A is added to thrice the age of B and thrice the age of C, the total becomes 108. What is the age of A?

a. 19 years

b. 15 years

c. 17 years

d. 12 years

e. 21 years

34. A couple has a son and a daughter. The age of the father is five times that of his son and the age of the daughter is half of her mother. The husband is ten years older to his wife and his son is ten years younger than the daughter. What is the age of the father?

a. 45 years

b. 50 years
c. 55 years
d. 48 years
e. None of these

35. There are three Pathan brothers Yusuf Pathan, Irfan Pathan and Saddam Pathan. The sum of the squares of their ages (in completed years) is 325. If the product of their ages does not exceed 1000, find the age (in years) of the youngest brother.

a. 6 years b. 7 years c. 8 years d. 9 years e. None

36. The sum of the ages of a mother and her son is 45 years. Five years ago, the product of their ages was 34. The ages of the son and the mother are respectively:

a. 6 and 39
b. 7 and 38
c. 9 and 36
d. 11 and 34
e. 39 and 11

37. Punit got married 8 years ago. His present age is 6/5 times of his age at the time of his marriage. Punit's brother was 10 years younger to him at the time of his marriage. The age of Punit's brother is?

a. 32 years
b. 36 years
c. 38 years
d. 40 years
e. 35 years

38. Ratio of present ages of Rakesh and Reena is 6:5 respectively. At the time of their marriage, ratio of their ages was 16:13 respectively. After four years, ratio of their ages will be 20:17 respectively. Before how many years they got married?

a. 10 years b. 4 years c. 8 years d. 6 years
e. None of these

39. Mother's age is 5 less than five times the age of her daughter and the product of their ages is 210. Find mother's age.

a. 40 years
b. 30 years
c. 35 years
d. 25 years
e. None of these

40. Tia's age is 5/3 times the age of her little cousin. She broke up 5 years ago when the ratio of Tia and her cousin is 2 : 1. If she wants a boyfriend who is 6/5 of her age, then what is the age of boyfriend?

a. 30 years
b. 35 years
c. 24 years
d. 25 years
e. Cannot be determined

41. The sum of the ages of 4 members of a family 5 years ago was 94 years. Today, when the daughter has been married off and replaced by daughter in law, the sum of their ages is 92. Assuming that there

has been no other change in the family structure and all the people are alive, what is the difference in the age of the daughter and the daughter in law?

a. 18 years

b. 20 years

c. 22 years

d. 24 years

e. None of these

42. The sum of the present ages of Arun and Nithin is 9 times the difference of the age of Arun and Nithin. Arun is elder than Nithin. 6 years hence, their total ages will be 12 times the difference of their ages. What is the present age of Arun who is elder than Nithin?

a. 18 years b. 12 years c. 24 years d. 28 years

e. 20 years

43. 5 years ago, the age of the father is 3 times the age of his son. 7 years hence, the age of the father and his son is in the ratio of 19:9. The average Present age of the father, mother, son and daughter is 30. The difference between the age of the mother and her daughter is 30. Then find the present age of the daughter?

a. 10 years

b. 14 years

c. 18 years

d. 16 years

e. None of these

44. A person was asked to state his age in years. His reply was, "Take my age three years hence, multiply it by 3 and then subtract three times my age three years ago and you will know how old I am." What was the age of the person?

a. 18 years

b. 20 years

c. 24 years

d. 32 years

e. 36 years

45. At the time of birth of Harish , his Grandfather's age was 48 years older than his cousin Krishna and his Grandmother was 45 years older than his brother. Difference between the ages of his brother and his cousin is 4 years. After 10 years, the average ages of these people is 49. At the time of his birth, what is the age of Harish grandmother?

a. 58 years

b. 60 years

c. 71years

d. 65 years

e. None of these

46. The ratio between twelve years after the age of Keerthi and sixteen years hence the age of preethi is 3:7. 6years before, the age of keerthi is thrice the age of preethi. What is the age of keerthi after 6 years?

a. 11 years

b. 12years

c. 10years

d. 16 years

e.None of these

47. Five years ago, the average age of the family which consists of four members was 40 years. If two people are added in the family and the average age of the family remains same today. If the ages of the new family members differ by 4 years, what is the age of the Elder one between the two?

a. 28 yrs b. 32 yrs c. 36 yrs d. 24yrs e. None

48. If the average age of a class is 15 (including the age of the teacher); that of the boys is 10 and if the age of the teacher is 13 more than the average age of the girls , then what is the average age of the girls, given that the number of boys and girls is the same?

a. 11 years

b. 12 years

c. 13 years

d. 16 years

e. None of these

49. Mr. Sunil is 5 times more aged than his son. If after 10 years, he would be 5 times of son's age, then further after 10 years, how many times he would be of his son's age?

a. 4 times

b. 12/5 times

c. 7 times

d. 13/3 times

e. 8 times

50. The ratio of present age of Ramesh and Kavi is 5: 6. Silambu is 5 years elder than Kavi. Sum of the present ages of three of them is 56 years. Find the age of Janvi after 3 years, if the present age of Janvi is 2 times the present age of Ramesh?

a. 31 years

b. 29 years

c. 33 years

d. 35 years

e. None of these

Answer Key with Solution

Solution (1-50)

1. A

Let Rita's present age = x yr

Rita's daughter age = x/4 yr

Rita's mother age = 3x/2 yr

=> x + x/4 + 3x/2 = 154

=> (4x + x + 6x)/4 = 154

=> 11x/4 = 154

=> x = 56

Rita's mother age = 3/2 * 56 = 3 * 28 = 84 yr

Difference between Rita's age and her mother's age = 84 – 56 = 28 yr.

2. A

Given, average age of Akhil, Parag and Monty = 24 yrs

Total age of Akhil, Parag and Monty = 24×3 = 72 yrs ….(1)

2yrs ago, average age of Akhil and Monty = 23

2yrs ago, total age of Akhil and Monty = 46

Present total age of Akhil and Monty = 50 ….(2)

2yrs hence, average age of Parag and Monty = 26

2yrs hence, total age of Parag and Monty = 52

Present total age of Parag and Monty = 48 …….(3)

From equation 1, 2 and 3

Present age of Monty is 26 years.

3. C

Let present age of Leelavati is P, then Father's age = 4P

6 years hence,

father's age = 4P+6

2 (Age of Lokesh) = 4P+6

Age of Lokesh = 2P+3

Present age of Lokesh = 2P+3-6 = 2P-3

Lokesh celebrated his 5th birthday 8 years ago

So, Present age of Lokesh is 5+8 = 13 years

2P-3 = 13

2P = 16

P = 8years.

4. E

Data inadequate because number of committee members and numbers of senior and junior is not given

5. C

Anitha – rahul =rahul – karthik

Anitha +karthik = 2 rahul

Anitha- karthik= 7

Anitha+ rahul +karthik=48

2rahul +rahul=48

Rahul =16

Karthick+8+16+karthick=48

2 karthick=24

Karthick=12,so anitha=20

Anitha: karthik:rahul=5:3:4

6. A

Age of father when Bhanu's brother was born = 28 + 4 = 32

Age of mother when Bhanu's brother was born = 26 – 3 = 2

7. C

Let Raman's present age = x yr.

Raman's daughter age = x/3 yr.

Raman's mother age = 13x/9 yr.

=> x + x/3 + 13x/9 = 125

=> 25x = 125 * 9

=> x = 45 yr.

Raman's daughter age = 45/3 = 15 yr.

Raman's mother age = (13 * 45)/9 = 65 yr.

Difference between Raman's mother and daughter age = 65 – 15 = 50 yr.

8. A

Let the age of Akhil and Anil be 7x and 9x

Amit 's age=(7x+2+9x+2)/2=8x+2

Given (8x+2)/(9x+4)=6/7

=>x=7

Akhil=35

Amit=42

Anil=45

Required ratio=(35+4)/42=39/42=13:14

9. B

Let Mridul's present age be "m" and Grandfather's present age be "g".

Then,

m + g = 68 ---(i)

Mridul's age "last year" was m – 1

His grandfather's age "in three more years" will be g + 3

The grandfather's "age three years from now" is six times Mridul's "age last year".

i.e., g + 3 = 6(m – 1) ---(ii)

Using equation (i) and (ii), we have:

=> g + 3 = 6m – 6

=> g + 3 = 6(68 – g) – 6 ['.' m = 68 – g]

=> g + 3 = 408 – 6g – 6

=> g + 3 = 402 – 6g

=> g + 6g = 402 – 3

=> 7g = 399

=> g = 57

Since, m + g = 68,

Then, m = 11

.'. Mridul is presently 11 years old.

10. E

Before 30 years, Neeraj's age = x years, Meetali's age = x – 4 years

According to the question,

2(x – 4) – 1.5x = 5

2x – 8 – 1.5x = 5

0.5x = 5 + 8

0.5x = 13

x = 26

Meetali's present age = 26 – 4 +30 = 52

Neeraj' present age = 26 + 30 = 56

11. B

Esha : her mother = 1 : 4

Her mother : Her brother = 9 : 1

Esha : Her mother : Her brother = 9 : 36 : 4

Accoding to the question,

9x – 4x = 5

5x = 5

x = 1

Esha mother age after 4 years = 36 × 1 + 4 = 40 years

12. D

Let the mother age be y years.

So, The age of father = (y + 9) years

and, The age of son = y/2 years

ATQ,

y + 9 = 3(y/2 - 7)

=> y + 9 = (3y - 42)/2

=> 2y + 18 = 3y - 42

=> y = 60 years

13. B

The average age of the grandparents is 70 years. So, the total age of the grandparents = 70 × 2 = 140 years

The average age of the parents is 40 years. So, the total age of the parents = 40 × 2 = 80 years

The average age of the grandchildren is 10 years. So, the total age of the grandchildren = 10 × 3 = 30 years

∴ The total age of the family members = 140 + 80 + 30 = 250 years.

∴ The average age of the family = 250 / 7=35(5/7)

14. D

Given, average age of Manoj and Rima is 25 years.

=> Sum of ages of Manoj and Rima = 50 years

Let the number of years since they got married be x years.

Given, child was born after 2 years of marriage.

.'. Age of child = (x - 2) years

Now,

Sum of ages of three members:

50 + x + x + (x - 2) = 48 + 3x

And, given, present average age of all the three of them is 24 years.

So, 48 + 3x = 24 * 3

=> 48 + 3x = 72

=> 3x = 24

=> x = 8 years

15. D

P + R + 2Q = 59 …….(i)

Q + R + 3P = 68 ……(ii)

P + 3Q + 3R = 108 ……(iii)

From 3 × (ii) – (iii)

P = 12 years

16. C

Total age of family = 231 years

Three years later total age of family = 231 + 8 × 3 – 60 = 195 years

After another three years total age of family = 195 – 60 + 8 × 3 = 159 years

Average age ≈ 20 years

17. D

one year from now, D+d=s

two years after that, D+2+d+2=s+2

D+d-s=2-4=-2

18. B

Before Death = 48*15 = 720

The age of late director at the time of his death

720 -(56+x) + 36 + 14 = 672

X = 42

19. B

P – 8 = S + D —(1)

6D + 30 = 7S + 35 —(2)

H = 7 + P

H = 3S

3S = 7 + P —-(3)

Solving eqn (1),(2) and (3) D = 23

20. B

15 years ago Total age of a family of four members = 160

Sum of the Present age of a family of four members = 160 + (15*4) = 220

Sum of the Present age of a family of six members = 40*6 = 240

x+x+8 = 20

x=6

Present age of the older child to the present age of the younger Child = 14:6 = 7:3

21. C

Let initial average age = x years
After adding age of boy, avg remains same
So, boy's age = x years
$\therefore$ Teacher's age = $2x + 8$
According to question,

$$\frac{15x + x + 2x + 8}{17} = 1.1x$$
$$\Rightarrow 18x + 8 = 18.7x$$

$\therefore x = 11.4$ Years (approx)

22. D

4 (C-A) = B + 1

A/C * 100 = 75

(B+5)/(C-1) = 4/3

Solve

A = 12, C = 16==➔avg=12+16/2=28/2=19

23. D

Sum of ages of couple = 25*2 = 50

When 1st child born, total age of 3 = 18*3 = 54 years

At this time the child's age was 0, so age of father and mother would have increased by same. So increased by 2 years each. So 50 +2 + 2 = 54

Now when 2nd child born, total age of 4 = 15*4 = 60

So this time second child's age = 0 and age of father, mother and first child would have increased by same. So increased by 2 each such that 54 + 2+2+2 = 60

So now this time (after 4 years from age 50), total age of couple is 50+4+4 = 58

So average = 29 years

24. B

At the time of marriage total age of couple=44

when 1st child is born total age of three=16*3=48

Difference=48-44=4 years (Child is of 0 years hence this is the sum of age incrase of couple)

When second child is born sum of age=4*15=60 years

=> increase of 12 years after first child, means age of husband, wife and first child increased by 4 years each.

SO increase in husband and wife total age = 8 years

total increase =4+8=12

total age=44+12=56; average=56/2=28 years

25. B

When 2 new people join if the sum of their age is 44 then the average will not change, but the sum of age of new people is 55 i.e increase of 11

hence avg increases by 11/22=0.5 years.

26. D

Son= 40% of father.

F:S=5:2

Mother=220% of son=11/5

M:S=11:5

make F:M:S =25:22:10

avg=(25+22+10)/3=19

19=38

1=2

=>22=44

27. C

F+M+S=42*3=126

The age of family after 6 years =36*5=180

The age of bride after 6 years=180-(126+18+5)

=180-149==>31yrs

Age of bride at the time of marriage=31-6=25yrs.

28. B

From option 54-45=1/11(45+54)

9=9

Condition satisfied.

29. D

Let the two digit no be 10x+y,and reverse is 10y+x

(10x + y + 10y + x) / 11 = 10x + y -10y-x

x + y = 9x – 9y

x/y = 5/4.

Then Diff of two number is (10x + y) – (10y – x)

= 9x – 9y

Substitute x and y here.

= 9(5-4)

= 9 yrs.

30. C

M+G=35*2=70

K+G=32*2=64

K+M=38*2=76

Then M+G+K=(70+64+76)/2

=105.

Average of M,G and K=105/3=35

Then (S+I)/2=35/2

Average of all=(105+35)/5

=140/5

=28.

31. B

Sakshi's age × Nidhi's age = 320

$S = \frac{320}{N}$

By question,

$\Rightarrow S + 8 = (N + 8)3$

$\Rightarrow S - 3N = 16$

$\Rightarrow \frac{320}{N} - 3N = 16$

$\Rightarrow 3N^2 + 16N - 320 = 0$

$\Rightarrow N(3N + 40) - 8(3N + 40) = 0$

$\Rightarrow (N - 8)(3N + 40) = 0$

∴ Nidhi's age = 8

And Sakshi's age $= \frac{320}{N} = \frac{320}{8} = 40$

∴ Sakshi was 32 years old when Nidhi was born.

32. C

Total age of family = 224 years

Three years later total age of family = 224 + 8 × 3 - 56

= 192 years

After another three years total age of family = 192 – 56 + 8 × 3

= 160 years

∴ Average age = 20 years

33. D

A + C + 2B = 59 .....(i)

B + C + 3A = 68 .....(ii)

A + 3B + 3C = 108 .....(iii)

From 3 × (ii) – (iii)

A = 12 years

34. B

The ratio of age of father and son = 5 : 1=>(5x, x)

The age of daughter = (1/2)*mother's age

F = M + 10

M = 5x – 10

D = (5x – 10)/2

S = D – 10

X = [(5x – 10)/2] – 10

X = [5x – 10 – 20]/2

2x = 5x – 30

3x = 30

X = 10

The age of the father = 5x = 50 years

35. A

Let the ages of the 3 brothers in completed years be x, y, z.

$x^2 + y^2 + z^2 = 325$ .....(i)

Clearly, the three numbers have to be less than 18 since the square of 18 itself is 324.

By trial, we see that $325 = 15^2 + 8^2 + 6^2$ or $12^2 + 10^2 + 9^2$

As the product of the ages is less than 1000, the ages have to be 6, 8, 15

The youngest is 6.

36. A

Let, the ages of mother and son be x and (45 - x) years respectively.

Then,

=> (x – 5) (45 – X - 5) = 34

=> (x - 5) (40 - x) = 34

=> x2 - 45x + 234 = 0

(x - 39) (x – 6) = 0

x = 39 or x = 6

Mother's age = 39 years and son's age = 6 years.

37. C

Let, Punit's present age be x years. Then, his age at the time of marriage = (x-8) years.

=> x = (6/5) * (x – 8)

=> 5x = 6x – 48

x = 48.

Punit's brother age at the time of his marriage = (x – 8) – 10 = (x - 18) = 30 years.

:: Punit's brother present age = (30 + 8) = 38 years.

38. B

Let the present ages of Rakesh and Reena be 6x years and 5x years respectively.

(6x + 4)/(5x + 4) = 20/17

=> 102x + 68 = 100x + 80

=> 2x = 12

=>x = 6

Present age of Rakesh = 6x = 6 x 6 = 36 years

Present age of Reena = 5x = 5 x 6 = 30 years

Let they got married before n years.

(36 – n)/(30 – n) = 16/13

=> 468 – 13n = 480 – 16n

=> 3n = 12

=> n = 4

39. B

Let mother's age be M and daughter's age be D.

According to question,

M = 5D - 5

And given that

D(5D - 5) = 210

5D2 - 5D = 210

5D2 - 5D - 210 = 0

D2 - D - 42 = 0

D2 - 7D + 6D - 42 = 0

D(D - 7) + 6(D - 7) = 0

(D + 6)(D - 7) = 0

D = -6, 7

So, D is 7 years old

Hence, mother's age = 5 * 7 - 5

= 30 years

40. A

Let Tia's age is 5/3 c years and her little cousin's age is c years.

Now, according to question

(5/3 *c - 5)/(c - 5) = 2/1

5/3 * c - 5 = 2c - 10

1/3 * c = 5

C = 15 years

Tia's age = 5/3 * c = 25 years

Boyfriend's age = 6/5 * 25

= 30 years

41. C

Sum of ages of 4 members of a family 5 years ago = 94 years

Their present age with daughter = 94 + 4 * 5

= 114 years

Now, their present age with daughter in law is 92 years.

Hence, difference between daughter and daughter in law = 114 - 92

= 22 years.

42. E

Let the age of Arun and Nithin be A and N,

According to the first condition

A + N = 9 (A – N)

N + 9N = 9A – A

10N = 8 A

The ratio of present age of A : N = 5 : 4

According to second condition

(5x + 6) + (4x + 6) = 12(5x – 4x)

9x + 12 = 12x

3x = 12

x = 4

Arun’s present age = 5x = 20

43. A

5 years ago, the ratio of age of the father and his son = 3: 1(3x, x)

7 years hence, the ratio of age of the father and his son = 19: 9

According to the question,

(3x + 12)/(x + 12) = (19/9)

27x + 108 = 19x + 228

8x = 120

X = 15

The present age of the father and his son = (3x + 5), (x + 5) = 50, 20

The average Present age of the father, mother, son and daughter = 30

Total Present age of the father, mother, son and daughter = 30*4 = 120

Total present age of the mother and her daughter = 120 – 70 = 50

Let the present age of mother and daughter be A and B,

A + B = 50—à(1)

A – B = 30—à(2)

By solving the equation (1) and (2),

A = 40, B = 10

The present age of the daughter = 10 years

44. A

Let age of person = x years

$\therefore x = 3(x + 3) - 3(x - 3)$

$\Rightarrow x = 9 + 9 = 18$ years

45. C

Let's assume Krishna age as x

Harish grandfather =48+x

Grandmother =45+ harish brother

Harish brother= x+5

48+x+10+45+x+4+10+10+ x+4+10+x+10= 49*5

4x=84

X=21

Harish grandmother age=x+5+45=71

46. C

$12+k/16+p = (3/7)$

$84+7k=48+3p$

$36=3p-7k$

$(k-6) =3p-18$

$12 = 3p-k$

$36 =3p-7k$

$6k = 24$

$K=4$

After 6 years =4+6 =10

47. B

Average age of the family (5 years) ago = 40

Total age of the family present = (40*4) + (4*5)

Let two new members be X, X+4

From statement,

X+X+4+160+20 = 40*6

2X+4+ 180 =240

2X = 56

Younger one age (X) = 28 yrs

Elder one Age = (X+4) =32yrs

48. E

Let the number of boys = the number of girls = n

Hence, total age of boys = 10n

Let the average age of girls = x

Hence, total age of girls = nx

Total age of the class = 10n + nx + x + 13

Total number of people in the class = n + n + 1 = 2n + 1

Average age of the class =

$$\frac{(10n + nx + x + 13)}{(2n + 1)} = 15$$

Since this is a single linear equation in two variables, a unique solution can't be found.

Therefore, the average age of the girls cannot be determined.

49. D

Let son's age be x and Sunil's age be 5x.

Sunil's age is 5 times more aged than his son, therefore

Sunil's present age = x + 5x = 6x

After 10 years, Sunil's age is 5 times more than his son age.

(6x + 10) = 5 (x + 10)

6x+10=5x+50

6x-5x=50-10

X=40

After 10 years it was (6x + 10), then after further 10 years, Sunil's age = (6x +20) and son age = x+20

(6x +20)/x+20 = ?

Substitute the value of x, we get

=6(40)+20/40+20

=240+20/60

=260/60

=13/3

After further 10 years, Sunil will be 13/3 times of son's age.

50. C

The ratio of present age of Ramesh and Kavi = 5: 6 (5x, 6x)

Silambu = 5 + Kavi = 6x + 5

Sum of the present ages of three of them = 56 years

5x + 6x + 6x + 5 = 56

17x = 56 – 5

17x = 51

X = 3

Present age of Ramesh = 5x = 15

Present age of Janvi = 2*Ramesh = 2*15 =30 years

The age of Janvi, after 3 years = 33 years

1. Radha's present age is three years less than twice her age 12 years ago. Also, the respective ratio between Raj's present age and Radha's present age is 4 : 9. What will be Raj's age after 5 years ?

a. 12 yr

b. 17 yr

c. 21 yr

d. Cannot be determined

e. None of these

2. If Ajay is as much elder than Vijay as he is younger to Kunal and sum of ages of Vijay and Kunal is 36 yr. Find the age of Ajay?

a. 18 yr

b. 24 yr

c. 20 yr

d. 16 yr

e. None of these

3. Radha's age is 133(1/3)% of what it was 8 years ago, but 80% of what it will be after 8 years. What is her present age?

a. 12

b. 32

c. 42

d. 30

e. Cannot be determined

4. If 6 years are subtracted from the present age of Sunny and the remainder is divided by 18, then the present age of his grandson Ronny is obtained. If Ronny is 2 years younger to Robin whose age is 5 years, then what is the age of Sunny?

a. 48

b. 80

c. 84

d. 60

e. None of these

5. Five years ago, 3/2 of Vishnu and 7/5 of balaji is 6:7. 7 years hence, their ratio will be 5:6. Then what will be 25% sum of present ages of both?

a. 26.5 years

b. 27 years

c. 29.5 years

d. 27.5 years

e. None of these

6. Farah was married 8 yr ago, Today her age is 9/7 time to that at the time of marriage. At present, her

daughter's age is 1/6th of her age. What was her daughter's age 3 yr ago?

a. 6 yr

b. 7 yr

c. 3 yr

d. Cannot be determined

e. None of these

7. The respective ratio between the present age of Ram, Rohan and Raj is 3:4:5. If the average of their present age is 28 yr, then what would be the sum of the ages of Ram and Rohan together after 5 yr?

a. 45 yr

b. 55 yr

c. 59 yr

d. 46 yr

e. None of these

8. M is as much younger than N as he is older than O. If the sum of the ages of N and O is 50 years, what is definitely the difference between N and M's age?

a. 2 years

b. 10 years

c. 3 years

d. Data inadequate

e. None of these

9.Eighteen years ago, a father was three times as old as his son. Now the father is only twice as old as his son. Then the sum of the present ages of the son and the father is:

a. 54

b. 72

c. 105

d. 108

e. 112

10.Sushil got married 6 years ago. His age is 7/6 times of his age at the time of his marriage. Three years ago, his son was 3 years old. The ratio of their (Sushil & his son) present age?

a. 1 : 6

b. 1 : 7

c. 2 : 7

d. 6 : 1

e. 8 : 1

11.The ratio of present age of Manoj to that to Wasim is 3:11. Wasim is 12 yr younger than Rehana. Rehana's age after 7 yr. will be 85 yr. What is the present age of Manoj's father, who is 25 yr older than Manoj?

a. 43 yr.

b. 67 yr.

c. 45 yr.

d. 69 yr.

e. None of these

12.The average age of husband, wife and their child 3 years ago was 27 years and that of wife and the child 5 years ago was 20 years. The present age of the husband is:

a. 30 years

b. 35 years
c. 40 years
d. 45 years
e. None of these

13.The captain of a cricket team of 11 members is 26 years old and the wicket keeper is 3 years older. If the ages of these two are excluded, the average age of the remaining players is one year less than the average age of the whole team. What is the average age of the team?

a. 23 years
b. 24 years
c. 25 years
d. 22 years
e. None of these

14.In a hockey team of 11 members, the captain's age is 26 years old and the goalkeeper is 3 years older. If the ages of these two are excluded, the average age of the remaining players is one year less than the average age of the whole team. What is the average age of the team?

a. 23 years
b. 24 years
c. 25 years
d. None of these
e. Cannot be determined

15.8 yrs ago Jyoti's age was equal to Swati's present age if sum of Jyoti's age 10yrs from now and Swati's age 6yrs ago is 88 yrs. What was Kusum's age 14 yrs ago if Kusum is 8 yrs younger to Swati?

a. 22
b. 14
c. 25
d. 24
e. 16

16.The average of the ages of Sumit, Krishna and Rishabh is 43 years and the average of the ages of Sumit, Rishabh and Rohit is 49 years. If Rohit is 54 years old, what is Krishna's age?

a. 45 years
b. 24 years
c. 36 years
d. Cannot be determined
e. None of these

17.The ages of two persons differ by 16 years. If 6 years ago, the elder one be 3 times as old as the younger one, find their present ages.

a. 14 years, 30 years
b. 28 years, 12 years
c. 16 years, 32 years
d. 24 years, 40 years
e. None of these

18.Mohan was 7 years younger to Raman 5 years back. After 5 years, the ratio of ages of Mohan and Jill will be 3 : 4. The sum of ages of Mohan and Jill is 53 years. Find the current age of Raman.(in years)

a. 22

b. 24
c. 29
d. 34
e. None of these

19.Miku's age is 9/11th of his brother's age and the age of Miku's father is 23 years more than the age of Miku. If the average age of Miku, Miku's father and Miku's brother is 27 years, find the age of Miku.

a. 18 years
b. 22 years
c. 20 years
d. 15 years
e. None of these

20.Sneha is 8 years older than her cousin. Her cousin is 24 years younger than his mother. If the ratio between the ages of Sneha and her cousin's mother is 7 : 11. What will be the age of Sneha's cousin after 3 years?

a. 21 years
b. 20 years
c. 26 years
d. 23 years
e. None of these

21.Monika, Neha and Bharti are three sister. Monika and Neha are twins. The ratio of sum of the ages of Monika and Neha is same as that of Bharti alone. Three years earlier the ratio of age of Monika and Bharti was 5 : 11. What will be the age of Bharti 7 years hence?

a. 20 years
b. 10 years
c. 25 years
d. 30 years
e. None of these

22.The average age of a group of 15 employees is 24 years. If 5 more employees join the group, the average age increases by 2 years. Find the average age of the new employees.

a. 35
b. 30
c. 24
d. 32
e. None of these

23.After 10 years, A's age will be twice that of B's age. A's present age is 6 times that of C. If B's eighth birthday was celebrated 2 years ago, then what is C's present age ?

a. 8
b. 5
c. 10
d. 15
e. None of these

24.The sum of the ages of a father and his son is 45 years. Five years ago, the product of their ages was 34. The ages of the son and the father are respectively?

a. 6 & 39
b. 7 & 38

c. 9 & 36

d. 11 & 34

e. None of these

25.Five years ago, the age of John was 5 times that of his son. After 5 years, his age will be 3 times that of his son. After how many years, will he be twice as old as his son?

a. 15 years

b. 25 years

c. 30 years

d. 40 years

e. Can't be determined

26.Shiva's age is 1/6th of his father's age. Shiva's father, Vijay's age will be twice the age of Ravi's age after 10 years. If Ravi's tenth birthday was celebrated three years before, then what is Shiva's present age.

a. 5 years

b. 6 years

c. 8 years

d. 5 years

e. None of these

27. The average age of some males and 15 females is 18 years. The sum of the ages of 15 females is 240 years and average age of males is 20 years. Find the number of males.

a. 8

b. 7

c. 10

d. 15

e. None of these

28. If 6 years are subtracted from the present age of Shyam and the remainder is divided by 18, then the present age of his grandson Anup is obtained. If Anup is 2 years younger to Mahesh whose age is 5 years, then what is the age of Shyam?

a. 48 years

b. 60 years

c. 84 years

d. 96 years

e. None of these

29.The product of the present ages of Sarita and Gauri is 320. Eight years from now, Sarita's age will be three times the age of Gauri. What was the age of Sarita when Gauri was born?

a. 40 years

b. 32 years

c. 48 years

d. 36 years

e. None of these

30.Three times the present age of a father is equal to eight times the present age of his son. Eight years hence the father will be twice as old as his son at that time. What are their present ages?

a. 35, 15

b. 32, 12

c. 40, 15

d. 27, 8

e. None of these

31.Kavya's age is 3 times more than that of Rita. Kavya will be 2 ½ times that of Rita 8 years after. How many times will Kavya's age be that of Rita 8 more years after?

a. 2.5

b. 2

c. 3

d. 3.5

e. 1.5

32. Father is four times the age of his daughter. If after 5 years, he would be threee times of daughter's age, then further after 5 years, how many times he would be of his daughter's age?

a. 1.5 times

b. 2 times

c. 2.5 times

d. 3 times

e. None of these

33.A man said to his son, "I was one-third of your present age when you were born". If the present age of the man is 48 years, find the present age of the son.

a. 25.7 years

b. 28 years

c. 29.3 years

d. 36 years

e. None of these

34.Sum of Sita and Gita age is 1 less than Rita. After one year Sum of Sita and Gita age is equal to Rita's age. After another year Sum of Sita and Gita is 1 more than Rita's age. If the sum of Sita, Gita and Rita's age is 19. Then what is the age of Sita?

a.4

b.5

c.6

d.7

e.Cannot be determined

35.Six years ago Manisha age was equal to sum of present ages of her Son and Daughter. Four years hence, the ratio of ages of her Son and Daughter at that time will be 7:6. Manisha is 6 years younger than his Husband. Manisha's present age is 2.5 times the present age of her Daughter. Then what is the age of Manisha's Husband?

a.50

b.54

c.56

d.60

e.Cannot be determined

36.Sum of the twice the age of Surya and his Father age is 79. Sum of the twice the age of Father and Surya's age is 104. The average of Surya, his Father and his Mother is 32. Then what is the age of his Mother?

a.32

b.33

c.34

d.35

e.36

37.When Rajesh was born, his father age was 29 years older than his Brother and his Mother was 25 years older than his Sister. If his Brother is 2 years elder than his Sister. After 6 years the average age of the family is 20. Then what is the age of Mother when Rajesh was born?

a. 27

b. 28

c. 29

d. 30

e. Cannot be determined

38.Ravi is now 4 years older than Emma and half of that amount older than Ishu. If in 2 years, Ravi will be twice as old as Emma, then in 2 years what would be Ravi's age multiplied by Ishu's age?

a. 68

b. 28

c. 48

d. 50

e. 52

39.Mr. Sharma has three sons namely Ram, Amit and Karan. Ram is the eldest son of Mr. Sharma while Karan is the youngest one. The present ages of all three of them are square numbers. The sum of their ages after 5 years is 44. What is the age of Ram after three years?

a. 15 years

b. 13 years

c. 19 years

d. 17 years

e. 16 years

40.Eight years ago, Pavi's age was equal to the sum of the present ages of her one son and one daughter. Five years hence, the respective ratio between the ages of her daughter and her son that time will be 7:6. If Pavi's husband is 7 years elder to her and his present age is three times the present age of their son, what is the present age of the daughter?

a. 15 years

b. 23 years

c. 19 years

d. 27 years

e. 13 years

41.The sum of the ages of 4 members of a family 5 year ago was 94 year. Today when the daughter has been married off and replaced by a daughter-in-law, the sum of their ages is 92 year. Assuming that there has been no other change in the family structure and all the people are alive, what is the difference between the age of daughter and the age of daughter in law?

a. 22 years

b. 11 years

c. 25 years

d. 19 years

e. 15 years

42.The sum of present ages Ria and Abi is 48 years. Today Abi is 4 years older than Shweta. The

respective ratio of the present ages of Ria and Shweta is 4:7. what was Abi's age two years ago?

a. 32 years

b. 30 years

c. 28 years

d. 34 years

e. None of the Above

43.Veena's present age is three times her son's present age and two fifth of her father's present age. The average of present age of all of them is 46 yrs.What is the difference between the Veena's son's present age and Veena's father's present age?

a. 68 yrs

b. 88 yrs

c. 58 yrs

d. None of the Above

e. Cannot be determined

44.Present age of a father is three times more than his son. 8 years hence, father's age will be 2 and a half times of his son's age. After 8 more years, how many times would father be his son's age?

a. 3 n half times

b. 4 times

c. 1 n half times

d. 2 times

e. 3 times

45.Sheetal's age at the time of her marriage was 4/5th of her present age. If she married 6 years ago and now she has a son who is 1/10th of her present age, then find the age of her son 5 years hence.

a. 3

b. 8

c. 9

d. 10

e. 12

46.Four years ago, the ratio of ages of Vishal and Devansh was 3 : 5. Four years from now, the respective ratio will become 2 : 3. What is the ratio of age of Vishal 4 years ago and Devansh's present age?

a. 4 : 5

b. 1 : 2

c. 6 : 11

d. 3 : 4

e. 9 : 13

47.A person's present age is two-ninth of the age of his mother. After 10 years, he will be four-eleventh of the age of his mother. How old is the mother after 15 years?

a. 48yrs

b. 60yrs

c. 55yrs

d. 53yrs

e. None of these

48.16 years ago, my Uncle was 8 times older than me. After 8 years from today, my uncle will be thrice as

old as I will be at that time. Eight years ago, what was the ratio of my age and my uncle's age?

a. 11:53

b. 13:45

c. 8:29

d. 5:32

e. None of these

49.3. L is as much younger than M as he is older than N. If the sum of the ages of M and N is 60 years, what is definitely the difference between M and L's age?

a. 3yrs

b. 2yrs

c. 5yrs

d. Can't be determined

e. None of these

50. 5 years ago, the age of Lata was two times the age of Arun. 10 years hence from today the age of Lata will be 4/3 times the age of Arun. What is the present age of Lata ?

a. 20 years

b. 22 years

c. 24 years

d. 18 years

e. None of these

Answer Key with Detailed Solution

Solution (1-50)

1. B

Let the present age of Radha = x yr

=> x = 2(x - 12) - 3

=> x = 2x – 24 – 3

=> x = 27

Present age of Raj = 4/9 * 27 = 12 yr.

Raj's age after 5 years 12+5=17 yr.

2. A

Let the present age of Ajay is "x" yr and Ajay is younger to Kunal by "y" yr.

Kunal's age = x + y

Vijay's age = x – y

=> (x + y) + (x - y) = 36

=> 2x = 36

=> x = 18 yr.

3. B

Let Radha's present age be Y years.

Then 133 1/3% of (Y – 8) = Y and 80%(Y+8) = Y

So, 133 1/3% of (Y-8) = 80%(Y+8)

4(Y-8)/3 = 4(Y+8)/5

5(Y-8) = 3(Y+8)

2Y = 64 = 32

4. D

Let Sunny's age be x.

Ronny is 2 years younger than Robin,

so Ronny is 3 years (i.e. 5 – 2 = 3)

If Sunny had born 6 years before, his age would had been x – 6.

As per the question, x – 6 should be 18 times as that of Ronny's age.

i.e. x – 6 = 3 x 18

x = 60

5. C

(3/2 x+12)/(7/5 x+12) = 5/6

X= 12

7 years hence ages= 60:72

Present ages=53:65

25% of sum of present age =1/4*118=29.5

6. C

Let Farah's age 8 yr ago = x yr

Farah's present age = (x + 8) yr

=> x + 8 = 9x/7

=> 7x + 56 = 9x

=> 2x = 56

=> x = 28

Farah's present age = 28 + 8 = 36 yr

Her daughter's age = 1/6 * 36 = 6 yr

Her daughter's age 3 yr ago = 6 – 3 = 3 yr.

7. C

Let the ages of Ram, Rohan and Raj is 3x, 4x, 5x respectively.

=> (3x + 4x + 5x)/3 = 28

=> 12x = 84

=> x = 7 yr

Present age of Ram = 3 * 7 = 21 yr

Present age of Rohan = 4 * 7 = 28 yr

Total age of Ram and Rohan = 21 + 28 = 49 yr

After 5 year age of Ram and Rohan = 49 + 5 + 5 = 59 yr.

8. D

$N - M = M - O \Rightarrow M = \frac{N+O}{2}$

$\Rightarrow 2M = N + O$ ...(i)

and, $N + O = 50$

$\therefore M = 25$

From here, we can't find the age of R. So, we can't determine the answer.

9. D

Let present age of son = x year

∴ Present age of father = 2x years

ATQ,

$2x - 18 = 3(x - 18)$

$\Rightarrow x = 36$ years = son's age

∴ Father's present age = 72 years

∴ Required sum = 72 + 36 = 108 years

10. B

Let Sushil's present age = x years

∴ His age during marriage = (x – 6) years

ATQ,

$$x = \frac{7}{6} \times (x - 6)$$

$\Rightarrow x = 42$ years

∴ present age of son = 3 + 3 = 6 years

∴ Required ratio = 42: 6

= 7: 1 or 1: 7

11. A

Rehan's age = 78 yr.

Wasim's age = 78 – 12 = 66 yr.

Let present age of Manoj = 3x and present age of Wasim = 11x

=> 11x = 66

=> x = 6 yr.

Manoj's age = 3 * 6 = 18 yr

Manoj's father age = 18 + 25 = 43 yr.

12. C

Sum of the present ages of husband, wife and child = (27 x 3 + 3 x 3) years = 90 years.

Sum of the present ages of wife and child = (20 x 2 + 5 x 2) years = 50 years.

Husband's present age = (90 - 50) years = 40 years.

13. A

Let the average age of the whole team by x years.

11x - (26 + 29) = 9(x -1)

=> 11x - 9x = 46

=> 2x = 46

=> x = 23.

So, average age of the team is 23 years.

14. A

Let the average age of the whole team be x years.

Then, according to the question,

11x - (26 + 29) = 9(x - 1)

=> 11x - 9x = 46

=> 2x = 46

=> x = 23

So, average age of the team is 23 years.

15. E

Let Swati's present age = x years

Jyoti's present age = (x +8) years

According to question,

=> x + 8 + 10 + x – 6 = 88

=> 2x + 12 = 88

=> x = 38

Kusum's present age = x – 8 = 30

So, Kusum's age 14 years ago = 30 -14 = 16

16. C

Let present ages of Sumit = a, Krishna=b, Rishabh=c and Rohit=d , then

a+b+c=43*3=129 ---(i) and

a+c+d=49*3=147 ---(ii)

Subtracting (i) from (ii),

(a+c+d) - (a+b+c)=147 -129 ,

d- a =18 ---(iii)

Given Rohit's age = d = 54,

so from (iii), a=54-18= 36

17. A

Let the age of the younger person be x years.

Then, age of the elder person = (x + 16) years.

Therefore 3 (x - 6) = (x + 16 - 6)

=> 3x -18 = x + 10

=> 2x = 28

=> x = 14.

Hence, their present ages are 14 years and 30 years.

18. C

Let the current age of Mohan be T years.

The sum of ages of Mohan and Jill is 53 years.

⇒ Age of Jill = (53 – T) years

After 5 years, the ratio of ages of Mohan and Jill will be 3 : 4

$$\Rightarrow \frac{T + 5}{53 - T + 5} = \frac{3}{4}$$

$$\Rightarrow 4T + 20 = 174 - 3T$$

$$\Rightarrow T = \frac{154}{7} = 22$$

Mohan was 7 years younger to Raman 5 years back.

Even now, Mohan would be 7 years younger to Raman.

Current age of Raman = 29 years.

19. A

Let the age of Miku's brother = x years, Miku's age = x × 9/11

The age of Miku's father = $x \times \frac{9}{11} + 23$

Total age = 27 × 3 = 81 years

$$x + \frac{9x}{11} + \frac{9x}{11} + 23 = 81$$

$$\frac{11x + 9x + 9x}{11} = 81 - 23$$

29x = 11 × 58

x = 22

Miku's age = $22 \times \frac{9}{11} = 18$ years

20. D

Let the age of Sneha = x, her cousin's age = x – 8,

Cousin's mother age = x – 8 + 24

Ratio between the ages of Sneha and her cousin's mother is 7 : 11

x : x + 16 = 7 : 11

11 × x = (x + 16) × 7

11x = 7x + 112

4x = 112

x = 28

Sneha's cousin age = 28 – 8 = 20

After 3 years Sneha's cousin age = 20 + 3 = 23 years

21. E

Since Monika and Neha are twins so their ages be same.

Let their ages be x and and age of Bharti be y, then,

x + x = y ...(i)

and $\frac{(x - 3)}{(y - 3)} = \frac{5}{11}$

⇒ 11x – 33 = 5y – 15

⇒ 11x – 5y = 18

Now, from equation (i) putting y in terms of x, we get

11x – 10x = 18

⇒ x = 18

So, the age of Bharti 7 years hence will be 18 + 18 + 7 = 43 years.

22. D

Method I: Total age of 15 employees = 15 × 24 = 360

Total age of 20 employees = 20 × 26 = 520

Let the average age of 5 new employees be x.

Therefore, the total age of the new employees = 5x

Hence, the total age of 20 employees = 360 + 5x

∴ 520 = 360 + 5x

∴ 160 = 5x

∴ x = 32

The average age of the new employees = 32

Hence, option D is correct.

Method II: Average age increased by 2 years i.e. 24 + 2 = 26 years

Total increment in Group's age (15 + 5) × 2 = 40 years

Now, avg age of new employees = $24 + \frac{40}{5} = 32$ years

23. B

Let C's present age be x year.

Then, A's present age = 6x.

Let B's present age be y.

Then, after 10 years,

6x + 10 = 2(y + 10)

=> 6x + 10 = 2y + 20

=> 6x – 2y = 10

=> y = 3x – 5

'.' B's eighth birthday was celebrated 2 years ago, so, B's present age = 10.

Also, B's present age = y = 3x- 5

=> 10 = 3x – 5

=> x = 15/3 = 5

24. A

Let the father age be 'x' years and son age be 'y' years.

Given, The sum of the ages of father and his son is 45 years.

x + y = 45

=> y = 45 – x ---------- (i)

Given, 5 years ago, the product of their ages was 34 years.

(x-5)* (y-5) = 34 ---------- (ii)

From (i) and (ii),

=> (x – 5)(45 – x – 5) = 34

=> (x- 5)(40 – x) = 34

=> 40x – x2 – 200 + 5x = 34

=> -x2 + 45x – 200 – 34 = 0

=> x2 - 45x + 234 = 0

=> x2 - 39x - 6x + 234 = 0

=> x(x - 39) - 6(x – 39) = 0

=> (x – 6)(x – 39) = 0

=> x = 6, 39

Therefore, father's age is 39 years and Son's age is 6 years.

25. B

Let the present age of John be x and that of his son be y

Forming equations

x – 5 = 5(y – 5)

x + 5 = 3(y + 5)

After soving we get

x = 55 and y = 15

After how many years, he will be twice as old as son

55 + x = 2 (15 + x)

x = 25 years

The answer can be found by trying options

= (55 + 25) = 2

(15 + 25)

26. B

Let the present age of Ravi be x.

As,

Ravi's tenth birthday was celebrated three years. So, his present age = 10 + 3 = 13 years

.'. Ravi's age after 10 years = 10 + 13 = 23 years.

Let Shiva and vijay's age be S and V respectively.

Then,

v + 10 = 2 * (10 + x)

=> v + 10 = 20 + 2x

=> v + 10 = 20 + 2 * 23

=> v = 46 - 10

=> v = 36

.'. Age of Shiva = 1/6 * 36 = 6 years.

27. D

Let there are n no. of males

(n + 15) × 18 = 240 + 20n, n = 15

28. B

Let A = Anup's age, M = Mahesh's age, S = Shyam's age

(S-6)/18=A

Also, A = 3 years (∵ M = 5 years)

S = 3 × 18 + 6 = 60 years

29. B

Sarita's age × Gauri's age = 320

S = 320/G

By question,

S + 8 = (G + 8)3, S – 3G = 16

320/G-3G=16

3G^2+16G-320=0 G(3G+40)-8(3G+40)=0

(G-8)(3G+40)=0

Gauri's age = 8

And Sarita's age = 320/G=320/8=40

Sarita was 32 years old when Gauri was born.

30. B

Let father's age = F, Son's age = y

3F = 8y

3F-8y=0……(i)

(F+8)=2(y+8)

F-2y=8 ……(ii)

From (i) – (ii) × 3

y= son's age = 12 years

And F= father's age = 32 years.

31. B

Rita = x, Kavya = x+3x = 4x

(4x + 8) = 5/2 (x+8)

Solve, x = 8

After 8 years, Kayva = 4x + 16 = 48, Rita = x+16 = 24

32. C

Let the daughter's age be x and father's age be 4x.

So as per question, 4x + 5 = 3(x + 5). So x = 10.

Hence present age of daughter is 10 years and present age of father is 40 years.

So after 5 + 5 = 10 years, daughter age would be 20 years and father's age would be 50 years.

Hence father would be 50/20 = 2.5 times of daughter's age.

33. D

Present age of the son be P, he was born P years ago.

The age of the man was: (48 - P).

His age when the son was born should be equal to 1/3 of P.

(48 - P) =1/3 P ⇒ P = 36

34. E

X+Y+Z = 19

X+Y+1 = Z

Z =10

X+Y+2 = Z+1

X+Y+4 = Z+2+1. Based on above solution cannot be determined

35. C

M-6 = S+D

M =2.5D

s+4/D+4 = 7/6(sub the values)

D = 20

M = 50 H = 56

36. D

2S+F = 79

2F+S = 104

S =18 F = 43

18+43+M/3 = 32

M =35

37. B

Sister = x; Brother = x+2; Father = 29+x+2; Mother = 25+x

Present age – 4x+58

After 6 years

4x+58+30 = 4x+88

4x+88 = 100

x = 3

Mothers age = 25+x = 28.

38. C

Ravi – x + 4

Emma – x

Ishu – x + 2

(Ravi 4 years older than Emma & 2 years older than Ishu)

Ages after 2 yrs

Ravi – x + 6

Emma – x + 2

Ishu – x + 4

x+6 = 2(x + 2)

x = 2

Ravi * Ishu = 8 * 6 = 48

39. C

Square numbers – x, y, z

(x + 5) + (y + 5)+ (z + 5) = 44

x + y + z = 44 – 15 = 29

Possible values of x, y, z = 4, 9, 16 [Out of 1, 4, 9, 16, 25]

Ram's present age = 16

After three years = 19

40. B

P – 8 = S + D —(1)

6D + 30 = 7S + 35 —(2)

H = 7 + P

H = 3S

3S = 7 + P —-(3)

Solving eqn (1),(2) and (3) D = 23

41. A

5 year ago, Sum of the ages of 4 members = 94

Present age with daughter = 94 + 20 = 114

Present age with daughter-in-law = 92

Difference between the age of daughter and the age of daughter in law = 114 – 92 = 22 years.

42. B

R + A = 48 —(1)

A = S + 4 –(2)

R/S = 4/7

R + S + 4 = 48 => R + S = 44

11x =44

x = 4

Shweta's age = 28

Abi's present age = 28 + 4 = 32

Abi's age two years ago = 30

43. D

Present age of Veena's son = x

Veena's present age = 3x

Veena's present age = 2/5 of Father's present age

Father's present age = (15/2) x

Total present age = x + 3x + (15/2)x = 138

x = 12

Difference between Veena's father's present age and Veena's son's present age = 90 – 12 = 78 years.

44. D

Let present age of son = x, then of father = x+3x = 4x

After 8 years, (4x+8) = (5/2) (x+8)

Solve, x = 8

Required ratio = (4x+16) : (x+16) = 2 : 1

45. D

4/5 * 6 = 24/30

24 => at the time of marriage

30 years => now

Son = 1/10 of present age = 1/10 * 30 = 3 years

5 years hence = 3+5 = 8 years

46. C

V————————D

4 years ago ————3————-5 ———-(eq 1)

4 years hence————2————3 ———- (eq 2)

Difference of V= 3-2=1; Difference of D= 5-3=2

to make this difference equal multiply eq 2, by 2 we get

————————V————————D

4 years ago ————3————-5 ———-(eq 1)

4 years hence————4————6 ———- (eq 2)

Difference = 1 in both case

This is for 8 years =>1= 8 years

V=3*8=24 (4 years ago)

D=5*8=40 (4 years ago)

Ratio =24/44=6:11

47. B

Present ratio P:M ==>2:9

After 10years P:M=4:11

Then

(2x+10)/(9x+10) = 4/11

22x+110=36x+40

X=5.

Then Mother's present age=9*5=45yrs.

After 15 yrs Mother's age is=60yrs.

48. A

Let 16 yrs ago the age of mine was=x

(x+24)/(8x+24)=1/3

X=48/5=9.6

My present age is 9.6+16=25.6

Present age of my Uncle =8*9.6+16=92.8

Required ratio =(25.6-8)/(92.8-8) =17.6/84.8=11:53.

49. D

M – L = L – N

(M + N) = 2L

Given (M + N) = 60

Then 2L=60==>L=30

But can't able to find M value

Therefore, cannot be determined.

50. A

5 years ago

Let Lasta's sons age be x

Lata's age b 2x

after 5 +10 =15 years

(2x+15)/(x+15)=4/3

find x

present age of Lata =2x+5=20

1. Devi purchased a car for Rs. 25000 and sold it for Rs. 34800. What is the percent profit she made on the car?

a.40%

b.39.2%

c.38.4%

d.38%

e. None of these

2. A loss of 10% is made by selling an article. Had it been sold for Rs 75 more, there would have been a profit of 5%. What would be the selling price of the article if it is sold at 15% profit?

a. Rs 475

b. Rs 520

c. Rs 575

d. Rs 425

e. None of these

3. Ramya purchased a bike for Rs.54000. He sold it at a loss of 8 percent. With that money, he again purchased another bike and sold it at a profit of 10 percent. What is his overall loss/profit?

a. loss of Rs. 657

b. profit of Rs. 567

c. loss of Rs. 648

d. profit of Rs. 648

e. None of these

4. When a article is sold for Rs.3400, there is a loss of 2%. What is the cost price of the commodity?

a. Rs 3500.50

b. Rs 3200

c. Rs 3400.56

d. Rs 3469.34

5. The profit earned after selling an article for Rs. 1516 is the same as loss incurred after selling the article for Rs. 1112. What is the cost price of the article?

a. Rs. 1314

b. Rs. 1343

c. Rs. 1414

d. Rs. 1434

e. None of these

6. The sale price of an article including the sale tax is Rs. 616. The rate of sale tax is 10% . If the shopkeeper has made a profit of 12%, the cost price of the article is [The Pearson Guide book]

a. Rs 500

b. Rs 515
c. Rs 550
d. Rs 600

7. Sika purchased an item for Rs. 9600 and sold it for a loss of 5 percent. From the money, she purchased another item and sold it for a gain of 5 percent. What is her overall gain/loss?

a. loss of Rs. 36
b. profit of Rs. 24
c. loss of Rs. 56
d. profit of Rs. 54
e. None of these

8. A man sold a wristwatch for Rs. 2400 at a loss of 25%. At what rate should he have sold the wristwatch, to earn a profit of 25%.

a. Rs. 3600
b. Rs. 4000
c. Rs. 3500
d. Rs. 3800
e. None of these

9. Kala purchased an item of Rs. 46000 and sold it at loss of 12 percent. With that amount, she purchased another item and sold it at a gain of 12 percent. What was her overall gain/loss?

a. loss of Rs. 662.40
b. profit of Rs. 662.40
c. loss of Rs. 642.80
d. profit of Rs. 642.80
e. None of these

10. Shan bought 30 liters of milk at the rate of Rs.8 per liter. He got it churned after spending Rs.10 and 5kg of cream and 30 liter of toned milk were obtained. If he sold the cream at Rs.30 per kg and toned milk at Rs.4 per liter, his profit in the transaction is?

a.20%
b.8%
c.30%
d.40%

11. Lokesh bought an article for Rs.2500.He spent Rs.320 on its shopping. He then sold it for Rs. 4089. What was the percent profit he gained in this transaction?

a.38%
b.45%
c.46%
d.35%
e. None of these

12. A shopkeeper allows 2% discount and gives 1 article free on purchase of 6 articles. He earns 40% profit during the transaction. By what percent above the cost price he marked his good?

a.50%
b.60%
c. 42 (6/7)%
d. 66 (2/3)%
e. None of these

13. Jaga bought a refrigerator with 20% discount on the labeled price. Had he bought at it with 30% discount, he would have saved Rs. 500 more. At what price did he buy the refrigerator?

a. Rs 5000

b. Rs 10,000

c. Rs 12,500

d. Rs 15,000

14. A trader bought 8 kg of rice at Rs 10 per kg. While selling he uses false weights of 1600 gm instead of 2 kg. What profit did he make by selling 8 kg of rice bought?

a. Rs 18

b. Rs 30

c. Rs 20

d. Rs 26

e. Rs 33

15. Two mobiles are sold at same price. If on one, a profit of 25% is made and on another, a loss of 10% is incurred, find the net profit/loss%?

a. 10 62/99%

b. 15 12/33%

c. 6 14/23%

d. 4 28/43%

e. 15 1/5%

16. A discount of 25% on one article is same as a discount of 50% on another article .The costs of two article can be?

a. Rs 30, Rs 20

b. Rs 90, Rs 40

c. Rs 80, Rs 40

d. Rs 50, Rs 40

17. The difference between the cost price and sale price of an article is Rs. 500 if the profit is 20%. The selling price is?

a. Rs 4000

b. Rs 1500

c. Rs 3000

d. Rs 3300

18. Due to reduction of 20% in price of pens a customer can purchase 5 more pens for Rs. 40. What is the original price of a pen?

a. Rs 5

b. Rs 3

c. Rs 2

d. Rs 6

e. Rs 8

19. The selling price of an article by two different vendors is Rs.960. and profit earned is 25%. One vendor counts his profit on cost price while other one counts his profit on selling price. Find the difference of profit earned by both the vendors?

a. Rs.33

b. Rs.62

c. Rs.44

d. Rs.50

e. Rs.48

20. If the cost price of 15 articles is equal to the selling price of 12 articles, find gain percent?

a.20%

b.25%

c.30%

d.21%

e. None of these

21.An article was purchased for Rs. 78350. Its price was marked up by 30%. It was sold at a discount of 20% on the marked up price. What was the profit percent on the cost price?

a.4%

b.7%

c.5%

d.3%

e.65%

22. A person sold an article at 16 (2/3)% profit on Selling Price. Afterwards when the cost price reduced by 10% then he also reduced the selling price by 10%. His percentage of profit on cost price will be?

a.20%

b.21%

c.19%

d.25%

e.26 %

23. On selling an article for Rs.(x-1800), Esha incurred a loss equal to half of the profit she would have gained on selling the same article for Rs.(x+2700). Find the value of x, if to gain a profit of 27.5% she needs to sell the article for Rs.8925?

a.8500

b. 7715

c. 7300

d. 6685

e. 7000

24. A shopkeeper labeled the price of his articles so as to earn a profit of 30% on the cost price. He then sold the articles by offering a discount of 10% on the labeled price. What is the actual percent profit earned in the deal?

a.18%

b.15%

c.20%

d. cannot be determined

e. None of these

25.The marked price of a sofa is 11,500 . The shopkeeper sold it by allowing 18% discount on the market price and earned 15% profit. What is the cost price of the sofa ?

a. 8000

b. 8100

c. 8200

d. 8400

26. After receiving 25% discount on an item, Anil needs to pay 2.5% CGST and 2.5% SGST on the discounted price . If Anil had got only 20% discount paid the same tax on discounted price then, he would

have to pay Rs.84 extra. Find the original marked price of the item?

a. Rs.1770

b. Rs.1420

c. Rs.1550

d. Rs.1600

e. Rs.1125

27. A man buys a single apple for Rs 25. If he were to buy a dozen apples, he would have to pay a total amount of Rs 250. What is approximate Percent discount he would get on buying a dozen apples?

a.32%

b.20%

c.12%

d.17%

e. None of these

28.A vendor loses the selling price of 4 apples on selling 36 apples. His loss percent is

a. 12(1/2)%

b. 11(1/2)%

c. 10%

d. 9%

29.The cost price of an item is Rs.120 and the profit percentage is (x+30)% of the cost price. If the cost price is increased by 25% and selling price remains same the profit percentage is (x-20)% . Find the value of x.

a. 120

b. 105

c. 90

d. 85

e. 100

30. The ratio of the cost price to the marked price of a watch is 3:5 and ratio of the percentage profit to the percentage discount is 5:3.Find the profit percentage?

a.13.34%

b.16.65%

c.16.43%

d.17.5%

31.A shopkeeper sells his gods at its CP only. But he uses 650 g weight at the place of 1000 g weight for a kg. What is his net profit percentage?

a.55%

b. 20 1/3%

c. 49 2/3%

d. 53 11/13%

e. None of these

32. A person sold a Tube light at Rs.85.25 in such a way that his percentage profit is the same as the cost price of the Tube light. If he sells it at twice the percentage profit of his previous percentage of the profit then the new selling price will be

a. Rs. 110.5

b. Rs.115.05

c. Rs.115.5

d. Rs.110.05

33.A shopkeeper buys 12 books at Rs.200 each. He sells 8 books at 15% profit. He marks up the

remaining books by 25% and then offers a discount of 12%. Find the overall profit percentage?

a.11.11%

b.17.27%

c.15.23%

d.10.15%

e.13.33%

34. On selling 15 balls at Rs 400 there is loss equal to Cost Price of 5 balls. The cost price of a ball is?

a. 20

b. 30

c. 40

d. 50

e. 60

35. A shopkeeper sold an article for Rs.540 and earned a profit of 20%. Had the shopkeeper sold the same article after giving a cash back of Rs.'x' on the selling price he would have still earned a profit of (100/9)% , find the value of x?

a. Rs.30

b. Rs.40

c. Rs.20

d. Rs.60

e. Rs.50

36. The difference in discounts between two successive discounts of 8% each and a single discount of 16% on Rs.2000 is

a. 6.4

b. 4.6

c. 12.8

d. 12.6

37. A shopkeeper sold his article at cost price but he uses false weight and gives 400gm instead of 600gm. find his loss or profit percent?

a.62%

b.40%

c.50%

d.30%

e.55%

38. Sum of CP's of two cows is Rs. 39, 000. Both the cows are sold at a profit of 20% and 40% respectively with their SP's being the same. What is the difference of CP's of both the cows?

a. Rs. 3,000

b. Rs. 2, 000

c. Rs. 1, 500

d. Rs. 2, 500

e. None of these

39. The profit earned after selling an article for Rs. 1754 is the same as loss incurred after selling the article for Rs. 1492. What is the cost price of the article?

a. Rs. 1623

b. Rs. 1523

c. Rs. 1689

d. Rs. 1589

e. None of these

40. A man gets a profit of 28% after allowing discount of 11(1/9)%. Find how much percent the cost price should be increased to make this Mark Price?

a.40%

b.45%

c.44%

d.46%

e.52%

41. A sold an articles at 10% loss on the cost price. He had bought it at a discount of 20% on the labeled price. What would have been the percentage loss had he bought it at the labeled price?

a.34%

b.18%

c.28%

d.16%

e. None of these

42. Naresh purchase a TV set for Rs. 11250 after get discount of 10% on the labelled price. He spent Rs. 150 on transport and Rs. 800 on installation. At what price the TV be sold so that the profit earned have been 15%?

a. Rs. 12937.50

b. Rs. 14030

c. Rs. 13450

d. Rs. 15350

e. None of these

43. If 8kg of tea price costing Rs56/kg is blended with 32kg of tea of Rs69/kg and 25kg of Rs75/kg and the mixture is sold at 20% profit. Find the selling price (in rupees) of mixture?

a. 82.64

b. 83.64

c. 80

d. 85

e. 84.56

44. The profit earned after selling an article for Rs. 878 is the same as loss incurred after selling the article for Rs. 636. What is the cost price of the article?

a. Rs. 797

b. Rs. 787

c. Rs. 767

d. Rs. 757

e. None of these

45. A seller calculated his intended selling price at 6% profit on the cost of a product. However, owing to some mistake while selling, the units and tens digits of the selling price got interchanged. This reduced the profit by Rs. 180 and profit percentage to 2.4%. What is the cost price of the product?

a. Rs. 4500

b. Rs. 5000

c. Rs. 4750

d. Rs. 6000

e. None of these

46.A shopkeeper is giving a discount of 20% on the marked price but a customer bargains and the

shopkeeper sells him at Rs. 240 less than he was supposed to sell. If the profit of the shopkeeper is decreased from 80% to 50% find the marked price of the item.

a. 1300

b. 1600

c. 1100

d. 1500

e. 1800

47.Article X and Y were sold at 10% and 15% discounts resp. Cost price of both articles was same. Find the ratio marked price of the article A and B resp. if profit earned from article A and B was 8% and 40/3% resp.

a. 7:4

b. 3:5

c. 9:10

d. 5:2

e. 9:8

48.Prakash bought a bike at 20% discount on its original price.He sold it with 30% increase on the price he bought it.The new sale price is by what percent more than the original price ?

a.4%

b.5%

c.10%

d.22%

e. None of these

49. Mani bough a printer and sold it to Raj for Rs.2160 thereby making a profit of 20%. At what price Mani must sell the printer to earn a profit of 40%?

a. Rs.2780

b. Rs.2665

c. Rs.2000

d. Rs.2520

e. Rs.2200

50. A vendor sells calculators at the rate of Rs. 250 each and earns a commission of 20% on each. He also sells pens at the rate of Rs. 50 each and earns a commission of 10% on each. How much amount of commission will he earn in three days if he sells 10 calculators and 5 pen a day?

a. Rs. 1575

b. Rs. 1445

c. Rs. 1550

d. Rs. 1450

e. None of these

Answer Key with Solution

Solution (1-50)

1. B

Profit = 34800 – 25000 = 9800

% profit = (9800 * 100)/25000 = 39.2%

2. C

Use shortcut for these type of questions:

CP of article = 75 × 100/ [5 – (-10)] (+5 for 5% profit, -10 for 10% loss)

So SP at 15% profit = 115/100 * CP = (115/100) * [75 × 100/15] = Rs 575

3. D

Loss = (54000 * 8)/100 = Rs. 4320

s.p of bike = 54000 – 4320 = Rs. 49680

Profit = (49680 * 10)/ 100 = Rs. 4968

s.p of bike = 49680 + 4968 = Rs. 54648

Profit = 54648 - 54000 = Rs. 648

4. D

loss=2% so,

98%…….3400

100%……..?

?=(3400×100)/98=3469.34

5. A

Let c.p = Rs x

Profit = Rs y

∴ x + y = s.p

=> 1516 = x + y ….(1)

When S.P = Rs 1112 then loss = Rs y

∴ 1112 = x – y ….(2)

Adding both the eqn.

=> 2x = 2628

=> x = Rs. 1314

6. A

110% of S.P. = 616

= S.P. = Rs.(616 x 100/110) = Rs.560.

C.P. = Rs (100/112 x 560)

= Rs 500

7. E

Loss = (9600 * 5)/100 = 480

s.p = 9600 – 480 = 9120

Again, Profit = (9120 * 5)/100 = 456

∴ s.p = 9120 + 456 = 9576

Overall Loss = 9600 – 9576 = Rs. 24

8. B

Let c.p = x

s.p = 0.75 * x = 2400

=> x = 3200

Again, Profit = (3200 * 25)/100 = Rs. 800

s.p = 3200 + 800 = Rs. 4000

9. A

c.p = 46000

s.p = 12% loss of c.p

=> 12 * 46000/100 = RS. 5520

s.p = 46000 – 5520 = Rs. 40480

Again, Profit = 40480 * 12/100 = Rs. 4857.6

s.p = 40480 + 4857.6 = Rs. 45337.6

Loss = 46000 – 45337.6 = Rs. 662.40

10. B

CP =Rs.(30 x 8 + 10) = Rs.250

SP = Rs. (30 x 5 + 30 x 4) = Rs.270

Gain% = (20/250 x 100)% = 8%

11. B

Total cost price = 2500 + 320 = Rs. 2820

Profit = 4089 – 2820 = Rs. 1269

% profit = (1269 * 100)/2820 = 45 %

12. D

Discount=2%=1/50 MP:SP=50:49

Profit=40%=2/5=> CP:SP=5:7

MP:SP:CP=50:49:35

This 35 is the CP of (6+1) hence the CP for 6 will be 30

(50-30)/30*100= 66 (2/3)%

13. A

Let the labelled price be Rs.x Then,

(80% of x)- (70% of x) = 500

10% of x =500

10%……..500

100%……? ?= (500 x 100/10) = 5000=x

14. C

He uses 1600 grams weight instead of 2 kg, means he makes a profit here.

That profit% = (2000-1600)/1600 * 100 = 25%

1 kg or 1000 gm costed him Rs 10. So 1600 gms costs his Rs 16.

Now on selling each 1600 gms he makes 25% profit. So profit = 25/100 * 16 = Rs 4

On selling each 1600 gms, he makes a profit of Rs 4, so on selling 5 * 1600 = 8000 gms or 8 kg, he makes a profit of 5 * 4 = Rs 20

15. D

profit 25% = 125, loss 10% = 90. Let SP of each mobile = LCM of (125 and 90) = 2250

So CP1 = 100/125 * 2250 = Rs 1800, and CP2 = 100/90 * 2250 = Rs 2500

So total SP = 2250+2250 = Rs 4500

Total CP = 1800+2500 = Rs 4300

So gain% = (4500-4300)/4300 * 100 = 200/43%=4 28/43%

OR use formula:

gain/loss% = [100(25 – 10) – 2 (25)(10)] / [(100+25) + (100-90)] = (1500-500)/215 = + 200/43%

16. C

Let the costs of the two articles be x and y. Then,

25% of x = 50% of y

=> x/y = 50/25 = 2/1

So,x and y must be in the ratio of 2:1➔80 and 40

17. C

120%-100%=20%

20%……500

120%…….?

?=3000

18. C

There is 20% reduction in price. So to keep the total amount same, consumption should increase by 20/(100-20) * 100 = 25%

For 25% (25/100 = 1/4) increase in consumption, customer can purchase 5 more pens

So original price of pens = 4*5 = Rs 20

So original price of 1 pen = 40/20 = Rs 2

19. E

CP of item for first vendor = 960/(100+25)% = Rs.768

CP of item for second vendor = 960*(100-25)% = Rs.720

Profit for first vendor = 960 – 768 = Rs.192

Profit for second vendor = 960 – 720 = Rs.240

Required Difference = 240 – 192 = Rs.48

20. B

Let c.p of 1 article = x

s.p of 12 articles = c.p of 15 articles = 15x

∴ s.p of 15 articles = 15 * 15x/12 = 75x/4

Profit = 75x/4 - 15x = 15x/4

%profit = (15x/4 * 100)/15x = 100/4 = 25%

21. A

c.p = 78350

Marked up price = 78350 * 30/100 = 23505

s.p = 78350 + 23505 = 101855

=> Discount = 101855 * 20/100 = 20371

s.p = 101855 – 20371 = 81484

Profit = 81484 – 78350 = 3134

%profit = (3134 * 100)/78350 = 4%

22. A

Profit on SP= 1/6

SP:CP=6:5 multiply by 10 for easy calculation= 60:50

60-6 : 50-5=54:45

=(54-45)/45*100=20%

23. C

CP of the article = 8925/1.275 = Rs.7000

Loss incurred = 7000 – (x-1800) = Rs.(8800 – x)

Profit gained = (x+2700) – 7000 = Rs.(x-4300)

(8800-x) = (x-4300)/2

17600-2x=x-4300

3x=21900

X=7300

24. E

Let c.p = 100

Labeled price = (100 * 130)/100 = 130

Discount = (130 * 10)/100 = 13

so , s.p = 130 – 13 = 117

∴ Profit = 117 – 100 = 17

%profit = 17 * 100/100 = 17%

25. C

11500×(82/100)×(100/115) = 8200

26. D

Total tax = 2.5+2.5 = 5%

Let the original marked price be x. (x*4/5*1.05) – (x*3/4*1.05) = 84

=> x*1.05(4/5-3/4) = 84

=> x = Rs.1600

27. D

c.p of an apple = 25

c.p for 12 apple = 12 * 25 = 300

Discount = 300 – 250 = 50

% Discount = 50 *100/300 = 16.66 = 17%

28. C

Selling price of 36 apples = Rs.36

Selling price of 4 oranges = Rs.4

Loss = 4

Cost price = 36+4 = 40

Loss % = (4/40)×100 = 10%

29. A

Profit on item = (x+30)% of 120

SP = (x+30)% of 120+120

New CP = (100+25)% of 120 = Rs.150

SP = 150 + (x-20)% of 150 (x+30)% * 120 + 120 = 150 + (x-20)% of 150

=> 12x + 360 – 15x + 300 = 300

=> x = 120

30. B

Cp:mp = 3x:5x = 300 : 500

Profit = 2x

P:d = 5:3

(5x×300)/100 +(3x×500)/100 = 100

30x = 100

X =(100/30) = 3.33%=> 5x = 16.65%

31. D

His profit % $= \frac{350}{650} \times 100 = 53\frac{11}{13}\%$

32. C

Cp = x

Sp = x+(x2/100) = 85.25

x2+100x-8525 = 0

(x+155)(x-55) = 0

X = 55

Now sp = 55+(55×110)/100 = 55+60.50 =115.5

33. E

CP of 12 books = 200*12 = Rs. 2400

SP of 8 books = 8*1.15*200 = Rs.1840

MP of each remaining book = 200*1.25 = Rs.250

SP of each remaining book = 250*0.88 = Rs.220

SP of each remaining 4 books = 220*4 = Rs.880

Total SP of 12 books = 1840+880 = Rs.2720

Profit% = (2720 – 2400)*100/2400 = 13.33%

34. C

loss= CP-SP

CP of 5=CP of 15- SP of 15

CP of 10=SP of 15=400

CP of 1 =40

35. B

CP of the article = 540/1.2 = Rs.450

Let cash back be x. (100+100/9)% of 450 = 540 – x

=> x = Rs.40

36. C

Two successive discounts of 8% = [8+8-(8*8/100)]% = 15.36%

Diff = 16 – 15.36 = 0.64%

Required diff = 2000×(0.64/100) = Rs. 12.8

37. C

(600-400)/400 *100 = 200/400 * 100=50%

38. A

First cow : Second cow

Let CP → $10_{\times 7}$: $10_{\times 6}$

SP → $12_{\times 7}$: $14_{\times 6}$

Ratio of their cost price = 7 : 6

∴ 130 → 39000

1 → 300

10 → 3000 Rs.

39. A

Let c.p = x and profit = y

s.p = x + y

=> 1754 = x + y....(1)

Again, when loss is y

=> 1492 = x – y....(2)

Adding both equations; 2x = 3246

=> x = 1623

40. C

Gain – 28% CP……SP

. 100……128

Discount 11(1/9)% = 1/9

MP……..SP

9…….8

Make SP same

CP……SP…….MP

100…….128……144

MP – CP =44%

41. C

Let labelled price = 100

Discount = 100 * 20 /100 = 20

c.p = 100 – 20 = 80

Loss = 80 * 10/100 = 8

s.p = 80 – 8 = 72

Loss = 100 – 72 = 28

% Loss = 28 * 100/100 = 28%

42. B

c.p = 11250

Extra money spent = 150 + 800 = 950

Total c.p = 11250 + 950 = 12200

Profit (15%) = 12200 * 15/100 = 1830

s.p = 12200 + 1830 = 14030

43. B

(8*56 + 32*69 + 25*75)/ 65 = 69.70

(69.70/100) * 120 = 83.64

44. D

Let c.p = x and profit = y

s.p = x + y

=> 878 = x + y....(1)

=> 636 = x – y....(2)

=> 2x = 1514

=> x = 757

45. B

Profit % reduced = 6 - 2. 4 = 3.6%

∴ Required CP = $\frac{180}{3.6} \times 100$

= 5000 Rs.

46. E

Let the MP be x.

And CP be y. 1.8y = 0.8x —-(1)

And 1.5y = 0.8x – 240 —-(2)

Now, 1.8y = 1.5y + 240

=> y = Rs.800

So, x = (1.8*800)/0.8 = 1800

47. C

Let the CP of both the article be Rs.x.

SP of X = 108% of x = Rs.108x

SP of Y = 340/3% of x = Rs.17x/15

MP of X = 1.08x/0.9 = Rs.1.2x

MP of Y = 17x/15/0.85 = Rs.4x/3

Required ratio = 1.2x:4x/3 = 9:10

48. A

Let original price = Rs.100

20% discount = Rs.20

CP = 80

SP = (130/100)×80 = 104

Percentage = (104 – 100)% = 4%

49. D

CP be x. x*1.2 = 2160

=> x = 1800

Required Amount = 1800*1.4 = Rs.2520

50. A

Profit on calculator = (250 * 20)/100 = Rs. 50

For 10 calculators = 50 * 10 = Rs. 500

Profit on pen = (50 * 10)/100 = 5

For 5 pens = 5 * 5 = Rs. 25

Total profit = 500 + 25 = Rs. 525

Total profit for 3 days = 525 * 3 = Rs. 1575