

MPA,EMPA Entrance Class

Numerical Skills

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1.If $3x + 2y = 13$ and $3y = 6$, then x
=

$$3y = 6, \quad Y = 2$$

$$3X + 2y = 13$$

$$3x + 2(2) = 13$$

$$3X + 4 = 13$$

$$3X = 13 - 4, \quad 3X = 9, \quad X = 3$$

A. 2 B. 3 C. 4 D. 5 E.
6

Ans: B

2.If $y^6 = 2x^3$ and $5x = 10$, what is the value of $y^6 + 2x$?

$$5X = 10, X = 2, y^6 = 2x^3$$

$$y^6 + 2x = 2x^3 + 2(2)$$

$$= 2(2)^3 + 2(2)$$

$$= 16 + 4$$

$$= 20$$

A. 18 B. 10 C. 4 D. 14 E. 20

Ans:E

3.If $4x^2 - 16 = 0$, which of the following could be the value of x ?

$$4x^2 - 16 = 0$$

$$4x^2 = 16$$

$$x^2 = 4$$

$$X = 2^2$$

$$X = 2 \text{ or } -2$$

A. -2 B. 2 C. 4

D. 16

E. 2 *or* -2

Ans: E

4. If $x^4 + 4x^3 + 3x - 2 = x^4 + 4x^3 + 2x - 6$, then $x =$

$$x^4 + 4x^3 + 3x - 2 = x^4 + 4x^3 + 2x - 6$$

$$x^4 + 4x^3 + 3x - 2 - x^4 - 4x^3 - 2x + 6 = 0$$

$$3x - 2x - 2 + 6 = 0$$

$$x + 4 = 0$$

$$x = -4$$

A. 12 B. 8 C. -4 D. 5 E.
3

Ans: C

5.If an object travels at seven feet per second, how many feet does it travel in one hour?

1 second = 7 feet

1 hr = 3600 seconds

3600 seconds ?

$3600 \times 7 = 25200$ feet

A. 420 B. 4200 C. 25200 D.2520 E.18000

Ans: C

$$6.(x - 5)^2 =$$

$$(x - 5)^2 = (x-5) (x-5)$$

$$= X^2 - 5X - 5X + 25$$

$$= X^2 - 10X + 25$$

A. $x^2 - 10x + 25$ B. $2x + 10$ C. $25x^2$ D. $x + 5$ E. $x^2 + 25$

Ans: A

7. Simplify $\sqrt{200} + \sqrt{50} - \sqrt{18}$

$$\sqrt{200} + \sqrt{50} - \sqrt{18}$$

$$\sqrt{25 \times 8} + \sqrt{25 \times 2} - \sqrt{9 \times 2}$$

$$\sqrt{5^2 \times 2^3} + \sqrt{5^2 \times 2} - \sqrt{3^2 \times 2}$$

$$5 \times 2 \sqrt{2} + 5\sqrt{2} - 3\sqrt{2}$$

$$10\sqrt{2} + 5\sqrt{2} - 3\sqrt{2}$$

$$12\sqrt{2}$$

A. $5\sqrt{2}$ B. $8\sqrt{2}$ C. $10\sqrt{2}$ D. $12\sqrt{2}$ E. $15\sqrt{2}$

Ans. D

8. If $3x + 4y = 8$ and $-3x + y = 2$, then y =

$$3x + 4y = 8 \text{ -----eq (1)}$$

$$-3x + y = 2 \text{ -----eq (2)}$$

Eq (1) – eq (2)

$$3x + 4y = 8$$

$$-3x + y = 2$$

$$0 + 5y = 10, \quad 5y = 10, \quad y = 2$$

A. 1

B. -2

C. 0

D. 2

E. -3

Ans: D

$$9. \left(-\frac{1}{\sqrt{2}}x^2\right) \times \left(\frac{1}{2}x^3 - 5x\right) =$$

$$\left(-\frac{1}{2\sqrt{2}}x^5\right) + \left(\frac{5}{\sqrt{2}}x^3\right)$$

- A. $\frac{1}{2}x^5 - \frac{2}{\sqrt{3}}x^2$ B. $-\frac{1}{2\sqrt{2}}x^5 + \frac{5}{\sqrt{2}}x^3$ C. $\frac{1}{2\sqrt{2}}x - \frac{5}{\sqrt{3}}x^2$
- D. $\frac{1}{3\sqrt{3}}x^5 - \frac{\sqrt{3}}{5}x^2$ E. None of these

Ans:B

10. Solve for x . Given this at $7 < 2x + 3 < 11$.

$$7 < 2x + 3 < 11$$

$$7 - 3 < 2x < 11 - 3$$

$$4 < 2x < 8$$

$$2 < x < 4$$

A. $2 < x < 5$

B. $2 < x < 4$ C. $x < 2 \text{ or } x > 5$

D. $3 < x < 5$

E. $-2 > x > -5$

Ans: **B**

11.If the average of 9, 12 and X is 15, find X.

$$\frac{9 + 12 + X}{3} = 15$$

$$\frac{21 + X}{3} = 15, \quad 21 + X = 45$$

$$X = 45 - 21$$

$$X = 24$$

A. 15

B. 20

C. 22

D. 24

E. 25

Ans: D

12. What is the simplified result of following the steps below in order?

(1) add 5 y to 2 x,

(2) multiply the sum by 3,

(3) subtract (x + y) from the product

$$(5y + 2X)3 - (X - Y) = 15y + 6X - X - Y = 5X + 14Y$$

A. $5x + 14y$ B. $5x + 16y$ C. $5x + 5y$ D. $6x + 4y$ E. $3x + 12y$

Ans: A

13. Which of the following fraction less than $\frac{1}{2}$?

$$\frac{1}{2} = 0.5$$

$$\frac{2}{5} = 0.4$$

A. $\frac{2}{5}$

B. $\frac{4}{7}$

C. $\frac{5}{9}$

D. $\frac{5}{7}$

E. $\frac{6}{9}$

Ans: A

14.If the difference of the lengths of two squares is 5 inches and the sum of the two areas is 97 square inches, the lengths of the two squares are
difference of the lengths of two squares is 5 inches (ပြောထားတဲ့အတွက်
အဖြေမှ ၅ ခြားနားသော အဖြေတွေကိုပဲ စဉ်းစားပြီး ပြန်တွက်တာက မြန်ပါတယ်

Square ၏ ဧရိယာသည် အလျား x အနံ

$$\text{Area of First Square} = 4 \times 4 = 16$$

$$\text{Area of Second Square} = 9 \times 9 = 81$$

$$\text{Area (1) + Area (2) = } 81 + 16 = 97$$

A. 4 & 5 B. 4 & 7 C. 4 & 9 D. 5 & 9 E. 5 & 7

Ans; C

$$15. \left(\frac{16 \cdot 27}{25}\right)^2 \left(\frac{50}{36}\right)^3 = \left(\frac{4^2 \cdot 3^3}{5^2}\right)^2 \left(\frac{5^2 \cdot 2}{3^2 \cdot 2^2}\right)^3$$

$$\left(\frac{4^4 5^2}{2^3}\right), = \left(\frac{6400}{8}\right) = 800$$

A. 600 B. 650 C. 700 D. 750 E. 800

Ans: E

$$\begin{aligned}
 & 16. \frac{1}{1-\sqrt{2x}} + \frac{1}{1+\sqrt{2x}} \\
 & \frac{1 + \sqrt{2x} + 1 - \sqrt{2x}}{(1 - \sqrt{2x})(1 + \sqrt{2x})} \\
 & \frac{2}{(1 - 2x)}
 \end{aligned}$$

A. $\frac{1}{1-2x^2}$

B. $\frac{1}{2x-1}$

C. $\frac{2}{1-2x}$

D. $\frac{2}{1+2x^2}$

E. 2

Ans: C

17. Solve the equation $3^{2x+1} \cdot 27^{x-1} = 81$

$$3^{2x+1} \cdot 3^{3x-3} = 3^4$$

$$2X + 1 + 3X - 3 = 4$$

$$5X = 6$$

$$X = \frac{6}{5}$$

- A. $\frac{1}{5}$ B. $\frac{3}{5}$ C. $\frac{4}{5}$ D. $\frac{6}{5}$ E. $\frac{5}{6}$

- Ans: D

18. $(5)^3 (5)^8$ equals

အခြေတူမြောက်လျှင် ထပ်ညွှန်းပေါင်းရုံပဲ

$$(5)^3 (5)^8 = (5)^3 + 8 = (5)^{11}$$

A. 55 B. $(5)^8$ C. $(5)^{11}$ D. $(55)^8$ E. None of them

Ans: C

$$19. (\sqrt{5} + 3)(\sqrt{5} - 3) =$$

$$(\sqrt{5} + 3)(\sqrt{5} - 3) = 5 - 3\sqrt{5} + 3\sqrt{5} - 9 \\ = -4$$

A. $\sqrt{3} - 5$ B. $\sqrt{5} - 3$ C. -4 D. 4 E. None of these

Ans: C

$$20. \quad \frac{8^6 - 8^4}{63} = \frac{8^4(8^2 - 1)}{63} = \frac{8^4(64 - 1)}{63}$$

$$\frac{8^4(63)}{63} = 8^4$$

A. $\frac{1}{8}$ B. $\frac{8}{63}$ C. 8^3 D. $\frac{8^2}{63}$ E. 8^4

Ans; E

$$21. (2x + 3) \times (7x - 4) =$$

$$= 14x^2 - 8x + 21x - 12$$

$$= 14x^2 + 13x - 12$$

$$A. 14x^3 + 21$$

$$B. 14x^3 + 13x + 12$$

$$C. 14x^3 + 12x - 21$$

$$D. 14x^2 + 10x - 12$$

$$E. 14x^2 + 13x - 12$$

Ans: E

22. Given that $f(x) = x^3 + px^2 - 2x + 4\sqrt{3}$ has a factor of $x - 2\sqrt{3}$. Find the value of P.

$$f(2\sqrt{3}) = (2\sqrt{3})^3 + p(2\sqrt{3})^2 - 2(2\sqrt{3}) + 4\sqrt{3}$$

$$= (24\sqrt{3}) + 12p - 4\sqrt{3} + 4\sqrt{3}$$

$$= (24\sqrt{3}) + 12p$$

$$12p = -24\sqrt{3}$$

$$P = -2\sqrt{3}$$

A. $2\sqrt{3}$ B. $3\sqrt{3}$ C. $\sqrt{3}$ D. $-2\sqrt{3}$ E. 2

Ans.D

23. Factor $12x^3 - 12xy^2$ completely.

$$= 12x^3 - 12xy^2$$

$$= 12x (x^2 - y^2)$$

$$= 12x (x + y) (x - y)$$

A. $x (12x^2 - 24y^2)$ B. $12x (x + y) (x - y)$ C. $x (12x + y) (x - y)$

D. $2xy (4x^2 - 3xy)$ E. $4x (3x + 3y) (3x - 3y)$

Ans: B

24. Find the value of k for which the remainder when $2x^3 + kx^2 + 8$ is divisible by $x - 2$.
Divisible ပါရင် စားလို့ပြတ်တဲ့အတွက် (၀) နဲ့ ညီရမယ်။

$$\begin{aligned} F(2) &= 2x^3 + kx^2 + 8 = 0 \\ 2(2)^3 + k(2)^2 + 8 &= 0 \\ 16 + 4K + 8 &= 0 \\ 4K + 24 &= 0 \\ 4K &= -24 \\ K &= -6 \end{aligned}$$

- A. -2 B. 2 C. 4 D. 6
E. -6

• Ans: E

25. Given that the equation $2x(x-1) = 3 - x$, the value of x is

$$2x^2 - 2x - 3 + x = 0$$

$$2x^2 - x - 3 = 0$$

$$2x^2 - 3 = 0$$

$$x - 3 = 0$$

$$x = 3/2$$

- A. -2 B. 2 C. -3 D. 3 E. $\frac{3}{2}$

- Ans: E

26. Find the average of q , $q + 5$ and $q + 7$

$$= \{q + (q+5) + (q + 7)\}/3$$

$$= 3q + 12/3$$

$$= 3(q + 4)/3$$

$$= q + 4$$

A. q B. $q + 4$ C. $q + 1$ D. $3q + 3$ E. $q + 2$

Ans: B

27. The earth travels around the sun at a speed of approximately 18.5 miles per second. This approximate speed is how many miles per hour?

1 hr = 3600 seconds

1 second ----- 18.5 miles

3600 seconds----- $18.5 \times 3600 = 66,600$ miles

A.1080 B.11600 C.64800 D.66600 E. None of these

Ans. D

28. In a given number adds 20 % is 42. Find the needed number.

ဒီလို ပုစ္ဆာမျိုးမှာ အဖြေကပြန်တွက်လျှင် ပိုမြန်ပါသည်။

$$35 \times 20\% = 7$$

$$35 + 7 = 42$$

ဥပမာ

$$15 \times 20\% = 3$$

15 + 3 = 18 ဒါဆို ပေးထားသော ၄၂ မရတဲ့အတွက် အဖြေမှတ်မဟုတ်ပါ။

A. 15 B.20 C.30 D.35 E.45

Ans; D

29. Simplify $\sqrt{2} - 3\sqrt{3} \div 2\sqrt{2} - \sqrt{3}$

- A. $2\sqrt{2}$ B. $3\sqrt{2}$ C. $-(1 + \sqrt{6})$ D. $(1 + \sqrt{6})$
E. None of these

Ans; C

$$\begin{aligned} & \frac{\sqrt{2} - 3\sqrt{3}}{2\sqrt{2} - \sqrt{3}} \times \frac{2\sqrt{2} + \sqrt{3}}{2\sqrt{2} + \sqrt{3}} \\ &= \frac{4 + \sqrt{6} - 6\sqrt{6} - 9}{8 + 2\sqrt{6} - 2\sqrt{6} - 3} \\ &= \frac{-5 + \sqrt{6} - 6\sqrt{6}}{5} \\ &= \frac{-5 + \sqrt{6}(1 - 6)}{5} \\ &= \frac{-5 + \sqrt{6}(-5)}{5} \\ &= \frac{-5 - 5\sqrt{6}}{5} \\ &= \frac{-5(1 + \sqrt{6})}{5} \\ &= -1(1 + \sqrt{6}) \\ &= -(1 + \sqrt{6}) \end{aligned}$$

30. The average height of the four students is 152cm. If the five students adds, the average height tall 2cm. The height of the Fifth student is

Average height of four = 152 cm

Total height of four = $152 \times 4 = 608$

Average height of five = $152 + 2 = 154$

Total height of five = $154 \times 5 = 770$

Height of fifth student = $770 - 608 = 162$ cm

- A. 152 cm B. 158 cm C. 162 cm D. 165 cm E. 168 cm
- Ans; C

31.If a ring is sold for a profit of 15 percent is \$525, then the purchase price is

ယခုလိုပစ္စည်းတို့တွင် အမြတ်နေ ပြောင်းပြန် ပြန်တွက်ရပါမည်။ အရမ်း မြန်ပါသည်။ အမြတ်ကို 15% နဲ့ လိုက် မြှောက်လိုက်လို့ 525 ရတာက အမှတ်ပါ။

$$3500 \times 15\% = 525$$

OR

$$525/15\% = 3500$$

A.\$2500

B.\$3500

C.\$4000

D.\$4500

E.\$4800

Ans; B

32. Tony is 12 years old and John is 15 years old. How many years will it take for both of them to multiply their ages to be 460?

ယခုလိုပစ္စည်းမျိုးတွေဆို အဖြေကနေ ပြောင်းပြန် ပြန်တွက်ရပါမည် ။ အရမ်း မြန်ပါသည်။

$$12 + 8 = 20$$

$$15 + 8 = 23$$

$$20 \times 23 = 460$$

$$(12 + x)(15 + x) = 460$$

$$180 + 12x + 15x + X^2 = 460$$

$$X^2 + 27x - 280 = 0$$

$$(X - 8)(x + 35) = 0$$

$$X = 8, X = -35$$

For example

(၉) နဲ့ ထားပြီး တွက်ကြည့်လျှင်

$$12 + 9 = 21$$

$$15 + 9 = 24$$

$$21 \times 24 = 504 \text{ (ဒီမှာ ဆိုရင် ၄၆၀ မရတဲ့အတွက် အဖြေမှန် မဟုတ်ပါ။)}$$

A. 8 B.9 C.10 D.11 E.12

Ans; A

33.If the area of a mirror is 1500 square inches and the perimeter is 160 inches, the mirror of the length and breadth are

ဧရိယာ (area) = အလျား x အနံ
ပတ်ပတ်လည်အနား (perimeter) = အနား (၄) လက်လုံးပေါင်း
ယခုလိုပုစ္ဆာမျိုးတွေဆို အဖြေကနေ ပြောင်းပြန် ပြန်တွက်ရပါမည် ။ အရမ်း မြန်ပါသည်။

$$\text{Area} = 30 \times 50 = 1500$$

$$\text{Perimeter} = 30 + 30 + 50 + 50 = 160$$

Ans; 30 & 50

For example (let A consider as the answer)

Area = $15 \times 20 = 200$ သုပေးထားတာက (1500) မတူတော့ပါဘူး
ဆက်မစဉ်းစားပါနဲ့တော့)

A. 15 & 20 B. 15 & 30 C. 20 & 50 D. 25 & 50 E. 30 & 50

Ans: E

34.If two workers share the wages of \$126 according to their labor ratio, how much will each of them get if the wages are 3:4?

စုစုပေါင်းကို အချိုးချခိုင်းတဲ့အခါ ချခိုင်းတဲ့ အချိုးတွေကို ပေါင်းလိုက်ပါ။
ယူနစ် စုစုပေါင်း ရပါလိမ့်မည်။ စုစုပေါင်းကို ယူနစ်နဲ့ စားလိုက်ရင်
တစ်ယူနစ်စာ ရပါလိမ့်မယ်။ ရှိတဲ့ တစ်ယူနစ်စာကို အချိုးချထားသော
ဂဏန်းနဲ့ ပြန်မြှောက်လိုက်ရင်ရပါပြီ။

$$126 \div 7 = 18 \text{ (တစ်ယူနစ်စာ)}$$

$$3 \times 18 : 4 \times 18$$

$$54 : 72$$

- A. 52 & 74 B.52 &70 C.54 &70 D.54 & 72
E. 54 &75

Ans: D

35. How much will get income from the stock of \$ 8750 at a profit of 3%.

$8750 \times 3\% = 262.5$ (Calculator နှိပ်တဲ့အခါ $(8750 \times 3\% =)$ ယခု ဂဏန်စဉ်အတိုင်း တစ်ခါတည်း နှိပ်လိုက်ပါ။)

- A.206 B.250 C.260 D.262.5 E.300
- Ans. D

36. How many shares do you get if you buy \$300 worth of \$5 shares at a price of \$6.25?

$$300 \div 6.25 = 48$$

A. 30 B. 40 C. 42 D. 45 E. 48

Ans. E

37. Smith pays the interest loans from 6% for an annual upon 150000\$ from the bank. How much the interest he pays for 4 years.

$$150000 \times 6\% = 9000 \text{ (တစ်နှစ်စာ အတိုး)}$$

$$9000 \times 4 = 36,000 \text{ (လေးနှစ်စာ အတိုး)}$$

- A. 32000 B. 35000 C. 36000
D. 38000 E. 40000

Ans: C

38. One side of a triangle has length 6 and a second side has length 5. Which of the following could be the area of the triangle?

I. 15

II. 20

III. 30

Area of Triangle = $\frac{1}{2}bh$

$$= \frac{1}{2}(6 \times 5)$$

$$= \frac{1}{2}(30)$$

$$= 15$$

A. I only B. II only C. III only

D. II and III only E. I, II and III

Ans: A

39. A firm sells the product \$ 3000 to sell its profit is 25%. How much of the price of the product sold to increase its profit 40%?

Sell price for 25% profit = $3000 - (3000 \times 25\%) = 3000 - 750 = 2250$

Profits (40%) of original sell price = $2250 \times 40\% = 900$

Sell price for 40% profit = $900 + 2250 = 3150$

OR

125% ----- 3000

140%----- $3000 \times 140/125 = 3360$

A. 2360 B. 3360 C. 2630 D. 3630 E 3260

Ans: B

40. What is the average (arithmetic mean) of all the multiples of five from 5 to 100 inclusive?

All the multiples of five from 5 to 100 inclusive) $5 + 100/2 = 52.5$

$$U_n = a + (n-1)d, a = 5, U_n = 100, d = 5$$

$$100 = 5 + (n-1)5$$

$$100 = 5 + 5n - 5$$

$$5n = 100$$

$$n = 20$$

$$S_n = n/2 (a + U_n)$$

$$= 20/2 (5 + 100)$$

$$= 10 (105)$$

$$= 1050$$

$$\text{Arithmetic Mean} = 1050 \div 20$$

$$= 52.5$$

A. 50 B. 52 C. 52.5 D. 102.5 E. 105.2

Ans: C

41. Find the sum of all even numbers between 69 and 149.

the sum of all even numbers between 69 and 149 =

$$= 70 + 148 = 218$$

$$= (149 - 69) \div 2 \div 2 = 20$$

$$= 218 \times 20 = 4360 \quad (149 - 69 = 80 / 2 = 40)$$

A. 3460 B. 4160 C. 4260 D. 4360 E. 6430

Ans; D

42. "n" is an integer chosen at random from the set : $\{2, 4, 6, 8\}$

"p" is chosen at random from the set: $\{1, 3, 5, 7, 9\}$

What is the probability that $n + p = 11$?

$$n + p = 20 \quad ($$

$$P + n = 20$$

$$\text{Total} = 40$$

$$11/40 = 0.275$$

A. 0.1 B. 0.2 C. 0.25 D. 0.3 E. 1.4

Ans; B

43. The ninth term of an AP is 6. Find the sum of first 17 terms.

$$U_n = a + (n-1)d$$

$$U_9 = a + (9-1)d$$

$$6 = a + 8d$$

$$S_n = \frac{n}{2} (2a + (n-1)d)$$

$$S_{17} = \frac{17}{2} (2a + (17-1)d)$$

$$S_{17} = \frac{17}{2} (2a + 16d)$$

$$= 17 (a + 8d)$$

$$= 17 \times 6 = 102$$

• A. 102 B. 201 C. 112 D. 210 E. 1 or 2

• Ans. A

44. A die is rolled 360 times. Find the expected frequency of a factor of 6.

A factor of 6 = 1, 2, 3, or 6

Probability of getting a factor of 6 = $\frac{4}{6} = \frac{2}{3}$

Expected frequency of a factor of 6 in 360 rolls = $\frac{2}{3} \times 360$
 $= 240$

A. 60 B. 100 C. 240 D. 320 E. None of these

Ans: C

45. How many 3 digit numbers can you form from 3, 0, 1 and 6 without repeating any digit? Find the probability of that number which is divisible by 3.

301, 306, 310, 316, 360, 361, 130, 136, 103, 106, 163, 160, 613, 610, 601, 603, 630, 631

Possible number = 18

number which is divisible by 3 = 306, 360, 603, 630 = 4
= $\frac{4}{18}$

= $\frac{2}{9}$

A. $\frac{1}{9}$

B. $\frac{2}{9}$

C. $\frac{5}{9}$

D. $\frac{4}{9}$

E. 1

Ans; B

46. Suppose a family has three children. Find the probability of only the first child is the boy.

BBB, BBG, BGB, BGG, GBB, GBG, GGB, GGG

Possible children = 8

only the first child is the boy = 1

= $\frac{1}{8}$

A. $\frac{1}{8}$

B. $\frac{3}{8}$

C. $\frac{1}{4}$

D. 0

E. None of these

Ans: A

47. In a car park, there are 7 white cars, 5 black cars and x red cars. One car is chosen at random. Given that the probability that it will be red is $\frac{1}{5}$. Calculate the value of x.

ယခုလိုပုစ္ဆာမျိုးတွေဆို အဖြေကနေ ပြောင်းပြန် ပြန်တွက်ရပါမည် ။ အရမ်း မြန်ပါသည်။

If $x = 2$,

$$2 / (7+5+2) = 2/14 = 1/7 \left(\frac{1}{5} \text{ အဖြေမရပါ။} \right)$$

If $x = 3$,

$$3 / (7+5+3) = 3/15 = 1/5 \left(\frac{1}{5} \text{ အဖြေရပါသည်။} \right)$$

Ans: $X = 3$

A.2 B.3 C.4 D.5 E.9

Ans: B

48. In a hospital unit, there are 8 nurses and 5 doctors. Among them, there are 7 nurses and 3 doctors are female. If a staff is selected, find the probability that the staff a nurse or a male.

Total = 13

Number of staff + male doctor = $8 + 2 = 10$

Probability that the staff a nurse or a male = $10/13$

• A. $\frac{1}{13}$ B. $\frac{3}{13}$ C. $\frac{8}{13}$ D. $\frac{10}{13}$ E.1

• Ans. D

49. Find the median from the following numbers.

2,3,4,7,8,3,4,10,11,9,12

= 2,3,4,7,8,9,10,11,12

ပေးထားသော ကိန်းများအား ငယ်စဉ်ကြီးလိုက်စီပါ။

ပြီးတော့ အလယ်ကိန်း တစ်လုံးတည်းရှိရင်

၎င်းကိန်းသည် (median) ဖြစ်ပါသည်။ အလယ်ကိန်း

(၂) ခု ရှိပါက ကိန်း(၂) လုံးပေါင်းပြီး ၂ နဲ့ စားရင်

(median) ဖြစ်ပါသည်။

A.2 B.4 C.7 D. 8 E.10

• Ans. C

50. A person sells the good of the price 50\$, the total sale revenue is 2500\$. How much of the quantity of the product he sells?

$$2500 / 50 = 50$$

A. 50 B. 52 C. 55 D. 60 E. 150

Ans: A

51. How many numbers between 200 and 400 meet one or both of the conditions given in the two statements below?

Statement 1: The number begins with 3

Statement 2: The number ends with 3

$$L = a + (n-1)d$$

$$L = \text{last number} = 399$$

$$a = \text{initial number} = 300$$

$$d = \text{difference} = 1$$

$$L = a + (n-1)d, \quad 399 = 300 + (n-1)1, \quad n-1 = 399 - 300$$

$$n-1 = 99, \quad n = 99 + 1 = 100$$

A. 20 B. 60 C. 100 D. 110 E. 120

Ans: C

52. The values of the two pens and three books are 250\$ and the values of two pens and one book are 150\$. Find the value of one pen.

$$2 \text{ pen} + 1 \text{ book} = 150$$

$$(2 \text{ pen} + 1 \text{ book}) + 2 \text{ books} = 250$$

$$150 + 2 \text{ books} = 250$$

$$2 \text{ books} = 250 - 150 = 100$$

$$2 \text{ books} = 100$$

$$1 \text{ book} = 50$$

A. 30

B. 40

C. 45

D. 50

E. 55

• Ans: D

53. $\frac{2}{p+3} = \frac{5}{3p+2}$. Find the value of p.

$$\frac{2}{p+3} = \frac{5}{3p+2} = 5p + 15 = 6p + 4$$

$$p = 15 - 4$$

$$P = 11 \quad (\text{၁၀ မရပါ။})$$

A. 4

B. 8

C. 10

D. 11

E. 12

Ans: C

54. How many numbers between 200 and 400 meet one or both of the conditions given in the two statements below?

Statement 1: The number begins with 3

Statement 2: The number ends with 3

Number begins with 3 = {301-399} = 100

Number ends with 3 = {203, 213, 223, 233, 243, 253, 263, 273, 283, 293, 303, 313, 323, 333, 343, 353, 363, 373, 383, 393} = 20

Number begins and ends with 3 = 303---393 = 10 (၁၀ လုံးက အထက်ပါ ပါပြီးသားဖြစ်နေလို့ ၁၃၀ မဟုတ်တော့ဘဲ ၁၂၀ ဖြစ်နေတာပါ။

Number begins with 3 + number begins and ends with 3 = 100 + 20

= 120

A. 20

B. 60

C. 100

D. 110

E. 120

55. The differences of the two numbers is 12 and its ratio is 5:4, find these numbers.

ယခုလိုပစ္စာမျိုးတွေဆို အဖြေကနေ ပြောင်းပြန် ပြန်တွက်ရပါမည် ။ အရမ်း မြန်ပါသည်။

$$60 - 48 = 12$$

$$60/48 = 5/4 \text{ (5:4)}$$

A. 60 and 48

B. -60 and 48

C. 40 and 68

D. 84 and 60

E. -48 and 60

Ans: A

56. A string must be three pieces of the length 126ft. The ratio of the first and second string 7:5 and the ratio of second and third string is 4:3. Find the length of the first string.

ဒီလိုပစ္စည်းမှာ ဘုံပါနေသော အပိုင်းကို မှတည်၍ အချိုးညှိပါ။

7: 5 (x 4)

(5 x) 4: 3

28 : 20

20 : 15

$28 + 20 + 15 = 63$

63 Units = 126

1 Unit = $126 / 63 = 2$

First piece (Units) = 28

$= 28 \times 2 = 56$

A. 40 B. 30 C. 56 D. 45 E. 65

Ans: C

57. Find the volume of square pyramid when the lengths of the bottom are 2 m and its height is 3 m.

$$\begin{aligned}\text{volume of square pyramid} &= a^2 h/3 \\ &= 2^2 \cdot 3/3 \\ &= 4(1) \\ &= 4\end{aligned}$$

A. 6 cm²
m²

B. 1.5 m²

C. 0.6 m²

D. 3 m²

E. 4

Ans: E

58. A carpenter constructed a rectangular sandbox with a capacity of 10 cubic feet. If the carpenter were to make a similar sandbox, twice as length, twice as wide, and twice as high as the first sandbox, what would be the capacity, in cubic feet, of the second sandbox?

(First) Volume = 10 (1 x 5 x 2) (1 x 1 x 10)

(Second) $V = 2L \times 2W \times 2H$ (2 x 10 x 4) (2 x 2 x 20) = 80

A. 20 B. 40 C. 60 D. 80 E. 100

Ans; D

59. A school club includes only sophomores, juniors and seniors, in the ratio of 1:3:2. If the club has 42 members, how many seniors are in the club?

$$\text{Units} = 6$$

$$\text{Total} = 42$$

$$1 \text{ Unit} = 7$$

$$\text{Senior (Units)} = 2$$

$$2 \text{ Units} = 2 \times 7 = 14$$

A.6 B.7 C.12 D.14 E.18

Ans. D

60. A rectangular garden is to be twice as long as it is wide. If 360 yards of fencing, including the gate, will completely enclose the garden, what will be the length of the garden, in yards?

$$2L + 2B = 360$$

$$L = 2B$$

$$2L + L = 360$$

$$3L = 360$$

$$L = 120$$

A.120 B.140 C.160 D.180 E.200

Ans. A

61. A certain fishing boat is chartered by 6 people who are to contribute equally to the total charter cost of \$480. If each person contributes equally to a \$150 down payment, how much of the charter cost will each person still owe?

$$480 - 150 = 330$$
$$= 330/6 = 55$$

A.\$80 B.\$66 C.\$55 D.\$50 E.\$40

Ans. C

62. In $\triangle ABC$, what is X in terms of Z ?

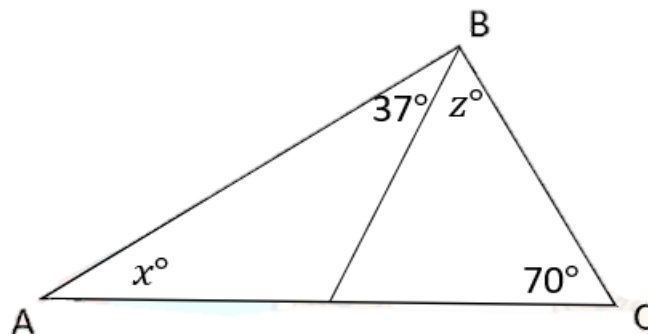
(A) $z+73$

(B) $z-73$

(C) $70-z$

(D) $z-70$

(E) $73-z$



Ans. E

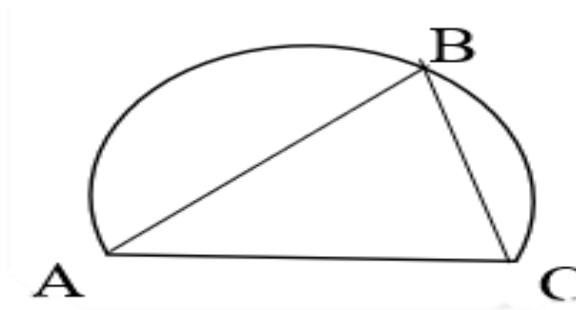
- $X + 37 + Z + 70 = 180$

- $X = 180 - 107 - Z$

- $X = 73 - Z$

63. In the figure shown the triangle is inscribed in the semicircle. If the length of line segment AB is 8 and the length of line segment BC is 6, what is the length of arc ABC?

- (A) 15π
- (B) 12π
- (C) 10π
- (D) 7π
- (E) 5π



Ans. E

Length of an Arc = $\theta \times (\pi/180) \times r$

$$(AC)^2 = (AB)^2 + (BC)^2$$

- $= 64 + 36 = 100 = 10$
- Length of an Arc = $\theta \times (\pi/180) \times r$
 $90 \times (\pi/180) \times 10$
 $= \pi/2 \times 10 = 5\pi$

64. In the figure , what is the ratio of the measure of angle B to the measure of angle A ?

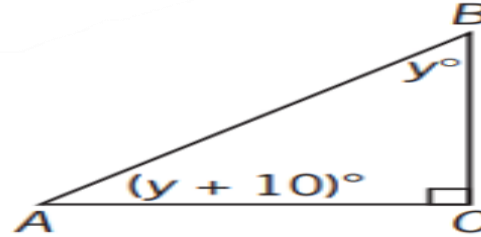
(A) 2 to 3

(B) 3 to 4

(C) 3 to 5

(D) 4 to 5

(E) 5 to 6



Ans. D

$$2Y + 10 = 90$$

$$2Y = 80$$

$$Y = 40$$

Angle B : Angle A

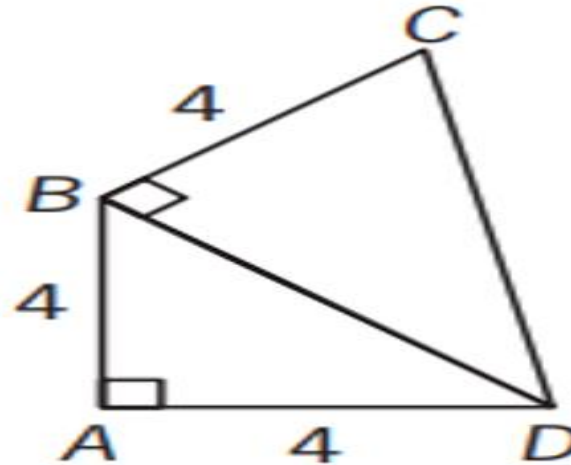
$$40 : 40 + 10$$

$$40 : 50$$

$$4 : 5$$

65. In the figure , what is the area of triangular region BCD?

- (A) $4\sqrt{2}$
- (B) 8
- (C) $8\sqrt{2}$
- (D) 16
- (E) $16\sqrt{2}$



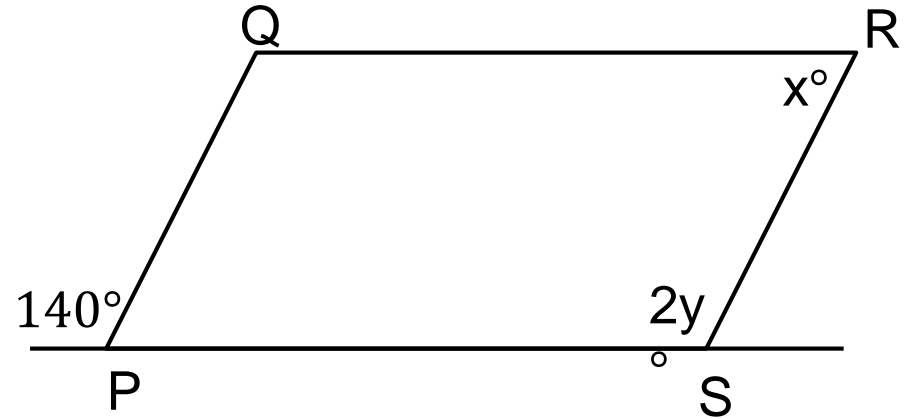
Ans. C

$$\begin{aligned}(BD)^2 &= (AB)^2 + (AD)^2 \\ &= 16 + 16 = 32 = 4\sqrt{2}\end{aligned}$$

$$\begin{aligned}\text{Area of triangle} &= \frac{1}{2} bh \\ &= \frac{1}{2} \times 4\sqrt{2} \times 4 \\ &= 2\sqrt{2} \times 4 \\ &= 8\sqrt{2}\end{aligned}$$

66. In the figure above, if PQRS is a parallelogram, then $y - x = ?$

- (A) 30
- (B) 35
- (C) 40
- (D) 70
- (E) 100



Ans. A

$$2y = 140$$

$$Y = 70$$

$$X = 180 - 140 = 40$$

$$Y - X = 70 - 40 = 30$$

67. In the figure , The value of x is

(A) 81°

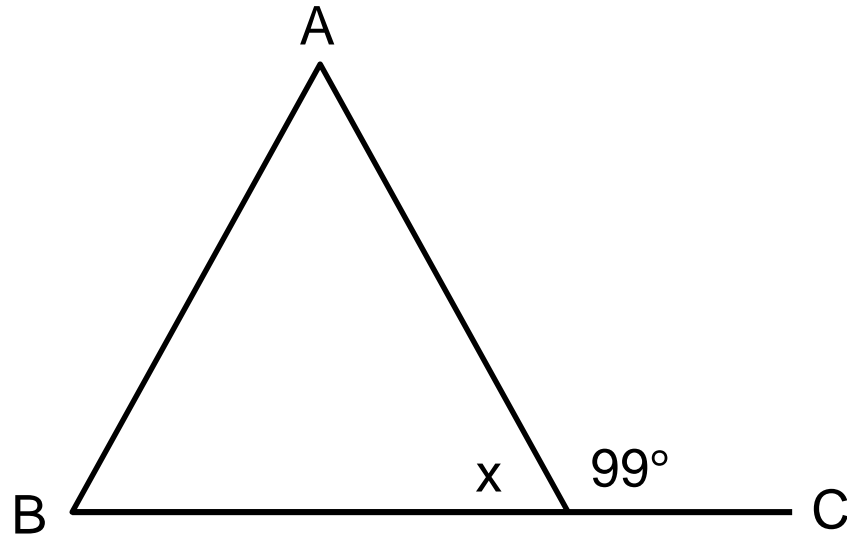
(B) 40°

(C) 45°

(D) 50°

(E) 71°

Ans. A



$$X = 180 - 99 = 81$$

68. In the figure , The value of x is

(A) 135°

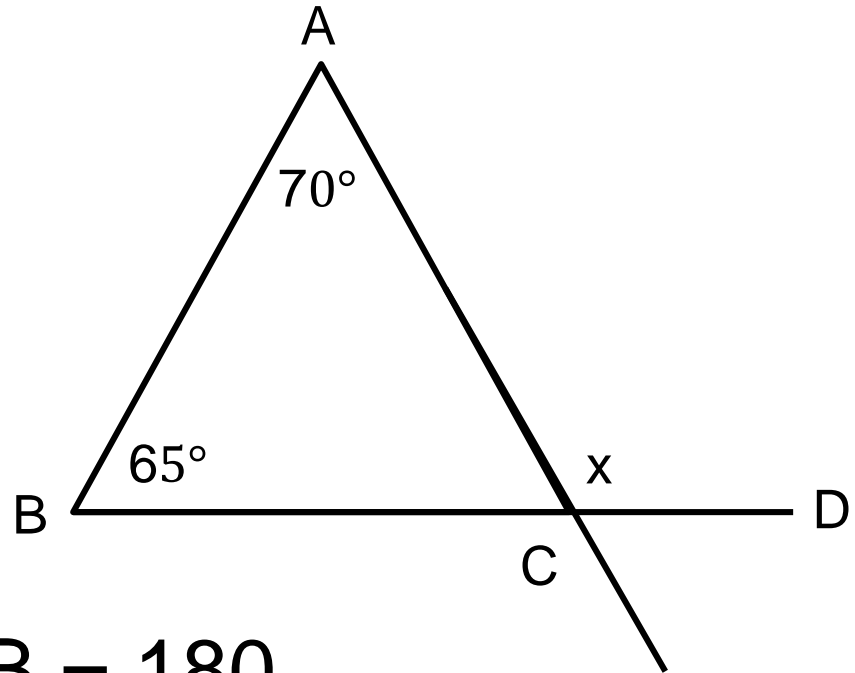
(B) 130°

(C) 30°

(D) 60°

(E) 90°

Ans. A



$$70 + 65 + \text{Angle } ACB = 180$$

$$\text{Angle } ACB = 180 - 135 = 45$$

$$X = 180 - 45 = 135$$

69.If the volume of the sphere is 113.04 m^3 , then the radius of the sphere is

$$V = \frac{4}{3} \pi r^3$$

$$113.04 = \frac{4}{3} \times 3.142 \times r^3$$

$$r^3 = 113.04/4.198$$

$$= 27$$

$$r = 3$$

A. 5 m B. 3 m C. 4 m D. 5 m E. 56.52 m

Ans: B

71.If the radius and height of the right circular cone are 6cm and 8cm, the volume of the right circular cone is

$$\begin{aligned} V &= (1/3) \times \pi r^2 h \\ &= (1/3) \times 3.142 (6)^2 8 \\ &= 301.4 \end{aligned}$$

- A.103.4cm³ B.301.4cm³ C.304.1 cm³
D.401.3cm³ E.403.1cm³

Ans; B