



11+ YEAR 5

MATHS PRACTICE



This paper contains 80 questions

- a.** This is a practice test.
- b.** Read the instructions carefully.
- c.** Make sure you use workings when you need to.
- d.** Work as quickly and as carefully as you can.



MATHEMATICS PRACTICE

1. Distribute 90 in the ratio 2:7

.....

2. Distribute 112 in the ratio 1:2:5

.....

3. Distribute 1820 in the ratio 50:20

.....

4. Distribute 30 in the ratio 2:6:7

.....

5. Simplify 8:56 into its simplest form

.....

6. Simplify 12:90 into its simplest form

.....

7. Simplify 9:876 into its simplest form

.....

8. Simplify 580:600 into its simplest form

.....

9. $(42 \times 12) - 60 = 444$

Using the statement above, is the equation below true or false?

a) $(42 \times 12) - 444 = 60$

.....

b) $(42 \times 12) + 444 = - 60$

.....

10. $(33 \times 45) + 33 = 1518$

Using the statement above, is the equation below true or false?

a) $(33 \times 46) = 1518$

.....

b) $(33 \times 46) + 33 = 1551$

.....

11. $(61 \times 19) - 92 = 1067$

Using the statement above, is the equation below true or false?

a) $(61 \times 19) - 1067 = -92$

.....

b) $-92 = 1067 - (61 \times 19)$

.....

12. $(111 \times 46) - 6781 = -1675$

Using the statement above, is the equation below true or false?

a) $(109 \times 46) - 6781 = -1721$

.....

b) $(111 \times 46) - 1675 = -6781$

.....

13. 3, 9, 5, 4, 4

For the numbers above, find the:

a) Range

.....

b) Mode

.....

c) Median

.....

d) Mean

.....

14. 42, 45, 53, 42, 42

For the numbers above, find the:

a) Range

.....

b) Mode

.....

c) Median

.....

d) Mean

.....

15. 379, 227, 588, 227, 236

For the numbers above, find the:

a) Range

.....

b) Mode

.....

c) Median

.....

d) Mean

.....

16. 7, 3, 5, 9, 7, 7, 14, 4

For the numbers above, find the:

a) Range

.....

b) Mode

.....

c) Median

.....

d) Mean

.....

17. Distribute 270 in the ratio 2:7

.....

18. Distribute 500 in the ratio 13:7

.....

19. Distribute 2000 in the ratio 14:8:18

.....

20. Distribute 77 in the ratio 1:3:5:2

.....

21. 373289×378454 is a large number. What is the final digit of this number?

.....

22. 287348×93272 is a large number. What are the final 2 digits of this number?

.....

23. 94371×12499855 is a large number. What are the final 2 digits of this number?

.....

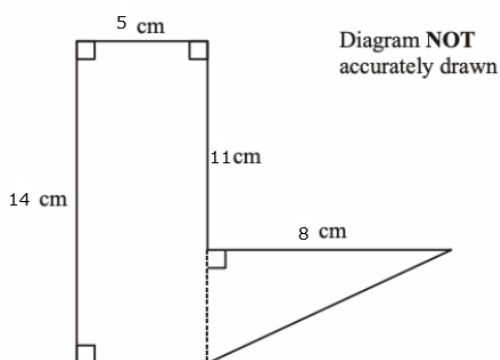
24. 3392042×1733839 is a large number. What are the final 3 digits of this number?

.....

25. It takes Damien 12 minutes to jog once around a circular track with a radius of 300 metres. What is Damien's speed in metres per minute? Take π to be 3.14.

.....m/min

26. Work out the total area of the shape below in centimetres squared.



.....cm²

27. The cost of 5 albums is £16.80. What is the cost of 12 albums?

£.....

28. Marvin, Carl and Nish share £320 in the ratio 2:3:3. How much does Marvin get as a fraction in its simplest form of the total amount?

.....

29. Write the ratio 63:56 in its simplest form.

.....

30. 120 people go to the cinema. There are five children for every seven adults. How many adults are at the cinema?

.....

31. Klara, Estie and Fiona have 48 sweets between them. They agree to divide them in the ratio 4:3:1. How many sweets does Estie receive?

.....

32. In a test, Sammy answered 7 questions correctly for every 2 that he got wrong. There were 72 questions in the test. How many did he get right?

.....

33. Helen buys 14 books for £112. How much would 19 books cost?

.....

34. *Mountain Moss* green paint contains 600cm^3 yellow paint and 150cm^3 blue paint. Write the ratio of yellow paint to blue paint in the form 1:n.

.....

35. 8 laptops contain 9,400GB of storage space. How much storage space would be found in 12 laptops?

.....

36. Pureed tomato, cream and vegetable stock are mixed together in the ratio 7:5:3 to make 1260ml of soup. How much of each ingredient is used? Write your answer as a ratio below with the ingredients in the same order as originally listed.

_____ : _____ : _____ ml

37. If one pound sterling (£) is worth eight and a half Danish Krone (DKK), convert £1100 into DKK.

.....

38. Ed sells 32 brownies and 40 croissants at a bake sale. James sells 16 brownies and 22 croissants. Paul's look the best, so he sells 121 croissants and 88 brownies. Which two bakers sold the same ratio of brownies to croissants?

- a) Ed and James
- b) Ed and Paul
- c) James and Paul
- d) None of them

39. What is X in the following proportion: $\frac{X}{72} = \frac{7}{12}$?

.....

40. Stevie sells hats. She sells each hat for £42 plus VAT at 22%. If she sells 384 hats, how much money does Stevie receive?

.....

41. A theatre has 260 guests. 145 of them are children. 20% of the adults buy ice cream during the interval. Write the number of adults in the theatre who don't buy ice cream as a fraction of the total number of guests in its simplest form.

.....

42. Ronnie's filling up her car with petrol. Last time she filled up, her milometer said she'd travelled 22,847 miles in total. Now, her milometer says 23,195 miles. Her car uses 0.5L of petrol to travel 1 mile. If petrol costs 56p per litre, how much does she pay (in pounds) to fill up her car?

£.....

43. 768g of flour are needed to make 24 biscuits. Sapphire wants to make 95 biscuits, so buys 3kg of flour. Does she have enough flour? If yes, how much will she have left over? If no, how much does she need to buy? Circle yes or no and write your answer on the line.

YES / NO

44. A dealership sells motorbikes. It offers a 30% discount if you pay in cash. Veronica pays £10,150 in cash for a motorbike. How much would it have cost if she paid by card?

£.....

Questions 45 and 46 are based on the following information:

£42,000 inheritance money is divided between Varsha, Shreya and Hamsi in the ratio 3:4:5.

45. Varsha gives 15% of her money to charity, Shreya gives 0.4 of the money to the same charity and Hamsi gives three eighths to the same charity. How much money do they donate to charity altogether?

£.....

46. Express the amount of money donated as a fraction of the inherited amount in its simplest form.

.....

47. A spinner is spun 10 times. The results are: 2, 6, 2, 1, 7, 3, 6, 4, 5, 2. What is the mean score?

.....

48. A group of friends record how many pages of a book they read in a day and recorded them in a table. What was the mean number of pages read?

Julian	52
Cassandra	55
Guillaume	48
Phillip	86
Jingjing	39
Reagan	8

.....

49. A group of friends compare their shoe sizes. They had size 7, 5, 5, 6, 4, 7, 5 and 6 shoes. What is the mode shoe size?

.....

50. Vanessa measures the heights of the blades of grass in her garden patch. They are 12mm, 16mm, 28mm, 31mm, 15mm, 11mm and 18mm. What is the range of the heights of the blades of grass?

.....mm

51. Juliusz weighed 30 loaves of bread and recorded their weights rounded to the nearest kilogram. See his results below. What was the mode weight for a loaf of bread?

Weight	Frequency
1kg	6
2kg	8
3kg	5
4kg	2
5kg	1

.....

52. The mean of the following set of numbers is 39: 42, 34, 45, 32, 51, X. What is X?

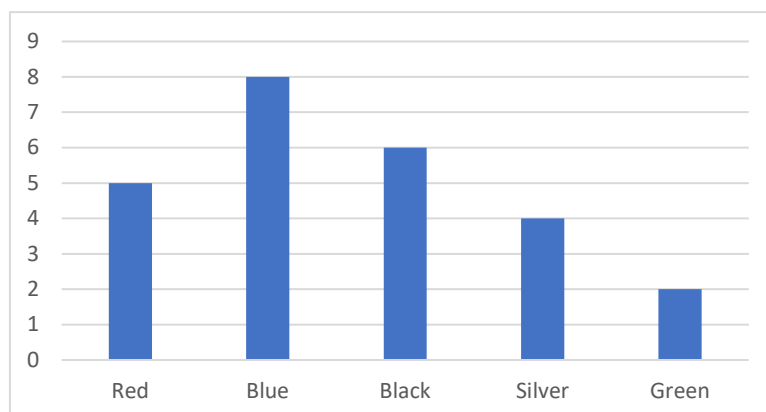
.....

53. Jane is a surgeon. She measures the diameter of the hearts she is operating on and records them in centimetres in the table below. What is the median heart diameter?

Diameter	Frequency
20cm	2
21cm	1
22cm	3
23cm	6
24cm	3
25cm	4

.....cm

54. Below is a graph showing the colour of cars in a car park. What is the mode car colour?



.....

55. A netball team plays 5 games. In the first 4 games they score 12, 8, 14 and 13 goals. The mean number of goals scored in a game is 12. How many goals were scored in the last game?

.....

56. A map has a scale of 1cm:8km. If the distance between two villages on the map is 12cm, what is the actual distance between them?

.....km

57. On a map, a stream has an actual distance of 12.4 miles and is represented by a 4.2cm line. Express this scale as a ratio (map distance: actual distance) in its simplest form.

.....

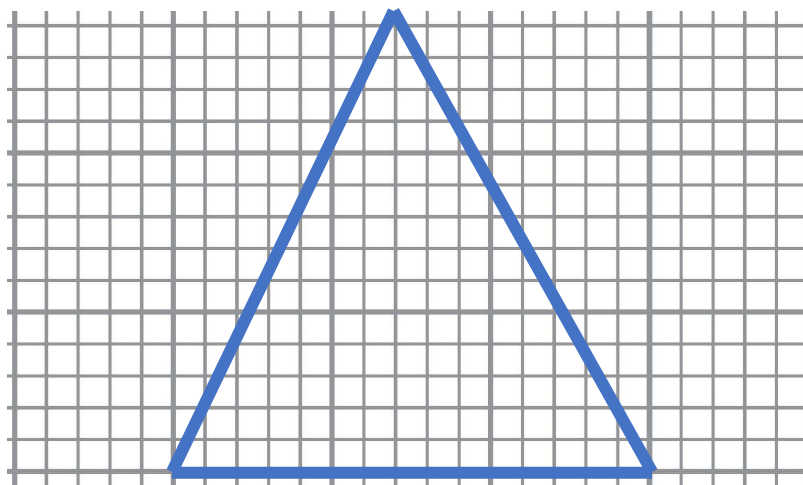
58. Barcelona is 18cm away from London on a map with a scale of 12cm:520miles. Copenhagen is 15cm away from London on a map with a scale of 5cm:200miles. Which city is London closer to?

.....

59. If the original map of Narnia has a scale of 2cm:30,000cm, what real distance does 1cm represent on the map shrunk to a quarter of its original size? Give your answer in kilometres.

.....km

60. Below is a scale drawing of a swimming pool. Each square on the grid has an area of 1cm^2 . If the scale of the drawing is $1\text{cm}^2:5\text{m}^2$, find the actual area of the swimming pool.



..... m^2

61. 1:X is the scale ratio of a map that has a 160km long road represented by a 20cm line. What is X in centimetres?

.....cm

62. Ethel can eat 18 slices of pizza in an hour. How many whole slices of pizza could she eat in 24 minutes?

.....

63. Tumi can mow a lawn in 16 minutes whereas Malachi takes 8 minutes to mow the same lawn. How many minutes would it take both of them together to mow the lawn? Leave your answer as a mixed number.

.....

64. If it takes one machine 9 hours to print 2000 newspapers, how many hours would it take five machines to print 1000 newspapers? Give your answer as a decimal.

.....

65. $\sqrt[3]{512}$

.....

66. Write 84 as a fraction of 320, leaving your answer in its simplest form

.....

67. Write 96 as a percentage of 800

.....

68. Some cookies are decorated with pecans, chocolate chips and cranberries in the ratio 2:9:3. What fraction of the decorations are cranberries?

.....

69. The cost of attending a football match is shown below.

Ticket	Price
Adult	£60
Child	£24
Family (2 adults, 2 children)	£150

What is the cheapest way for 6 adults and 5 children to attend the football match? Write the total price and which tickets are needed.

.....

70. Find 12% of 350

.....

71. Work out $2\frac{2}{3} \div 6$. Give your answer in its simplest form.

.....

72. 9 cans of cola cost £3.15. How much do 21 cans of cola cost?

.....

73. Work out the area of the shape below

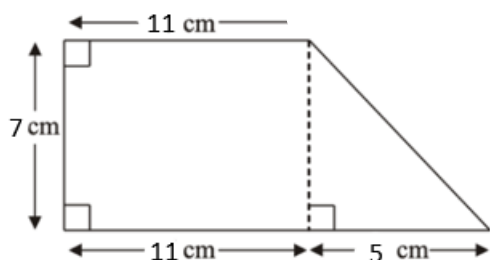


Diagram **NOT** accurately drawn

.....cm²

74. What is the perimeter of this shape?

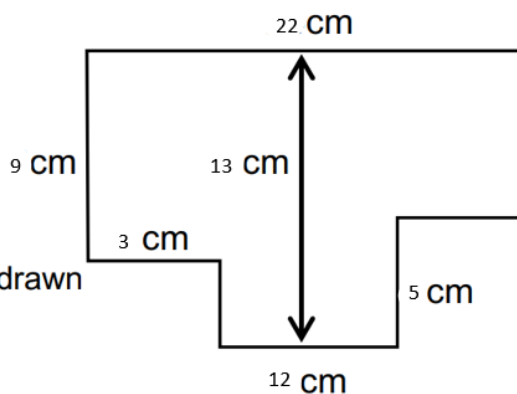


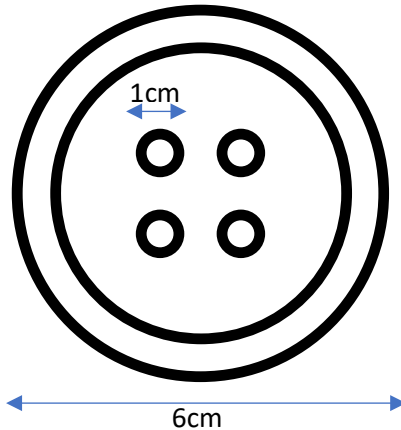
Diagram **NOT** accurately drawn

.....cm

75. A bathroom is 1.5m wide by 8m long. Lisa wants to get a marble floor. If marble costs £70 per square metre, what is the cost of getting a marble floor?

£.....

76. Calculate the area of the button below in centimetres squared. The diameter of the button is 6cm. The diameter of one of its holes is 1cm. Take π to be 3.14.



.....cm²

77. A team of volunteers are picking up litter in a forest. The forest measures 600m by 550m. Each volunteer can clean 20m² in 2 minutes. How many people will be needed to clean the forest in 1 hour?

.....

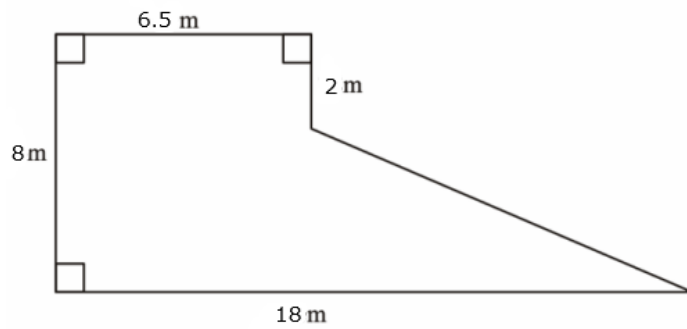
78. Julia has a circular hot tub which she wants to surround with a tall fence. If the diameter of the hot tub is 23 feet, what will be the total perimeter of fence? Take π to be 3.14.

..... feet

79. Obi wants to buy a large cylindrical candle to fit in a square space on his desk. The space on his desk has side lengths of 6cm. Candles come in different size options; a small candle has a radius of 1cm, a medium candle has a radius of 2cm, a large candle has a radius of 3cm and an extra large has a radius of 4.5cm. Which size candle should he buy if he wants as little leftover space as possible?

.....

80. The plan of a little art gallery is shown below. Rent on the gallery costs £25 per square metre for a month. How much would the total rent cost for one month?



END OF TEST

Answers

- 1) 20:70
- 2) 14:28:70
- 3) 1300:520
- 4) 4:12:14
- 5) 1:7
- 6) 2:15
- 7) 3:292
- 8) 29:30
- 9) a: T; b: F
- 10) a: T; b: T
- 11) a: F; b: T
- 12) a: F; b: F
- 13) a: 6; b: 4; c: 4;
d: 5
- 14) a: 11; b: 42; c:
42; d: 44.8
- 15) a: 361; b: 227;
c: 236; d: 331.4
- 16) a: 11; b: 7; c: 7;
d: 7
- 17) 60:210
- 18) 325:175
- 19) 700:400:900
- 20) 7:21:35:14
- 21) 6
- 22) 56
- 23) 05
- 24) 238
- 25) 157
- 26) 82
- 27) £40.32
- 28) $\frac{1}{4}$
- 29) 9:8
- 30) 70
- 31) 18
- 32) 56
- 33) £152
- 34) 1:0.25
- 35) 14,100GB
- 36) 588:420:252
- 37) 9,350 DKK
- 38) c
- 39) 42
- 40) £19,676.16
- 41) $\frac{23}{65}$
- 42) £97.44
- 43) No, 40g more
- 44) £14,500
- 45) £13,737.50
- 46) 157/480
- 47) 3.8
- 48) 48
- 49) 5
- 50) 20
- 51) 2kg
- 52) 30
- 53) 23cm
- 54) Blue
- 55) 13
- 56) 96
- 57) 21cm : 62 miles
- 58) Copenhagen
- 59) 0.6km
- 60) 525m²
- 61) 800,000cm
- 62) 7
- 63) 5 and $\frac{1}{3}$
- 64) 0.9
- 65) 8
- 66) $\frac{21}{80}$
- 67) 12%
- 68) $\frac{3}{14}$
- 69) £444, 2 family
tickets, 2 adults and
1 child
- 70) 42
- 71) $\frac{4}{9}$
- 72) £7.35
- 73) 94.5
- 74) 70
- 75) £840
- 76) 25.12cm²
- 77) 550
- 78) 72.22
- 79) Large
- 80) £2162.50