

MYEXAMPAPERS

PRACTICE MATHS SET 1 D

MATHEMATICS

40 minutes

36 questions

Name _____

Date _____

Choose one answer for each question.

Work quickly and carefully.

If you are stuck, move on and come back at the end.

1.

If the first four square numbers are added together, what must be added to this total to reach the value of the fifth square number?

-5

25

1

0

2

2.

What value must be subtracted from 18.25 to leave exactly 9.4?

8.65

8.85

9.25

9.85

7.65

3.

Which of the following values is exactly equivalent to three-eighths?

0.3

0.375

3.8

0.35

0.425

4.

What is the difference between the largest and smallest 5-digit numbers that can be made by rearranging all the digits in 6,108,3? (Note: 5-digit numbers cannot start with 0).

75,963

76,281

75,083

72,963

75,321

5.

A rectangular tile has a length of 12cm and a width of 8cm. What is the maximum number of these tiles that can fit without overlapping inside a square table surface with an area of $57,600 \text{ cm}^2$?

50

600

400

500

300

6.

If $3A + 2B = 26$ and $B = 4$, what is the value of $5A - 3B$?

18

24

12

20

22

7.

A geometric pattern uses a function where $\text{output} = 4n - 3$. If the output value is 57, what is the value of n ?

12

15

14

13

16

8.

A large storage crate holds a mixture of square cubes that are green, pink, or purple. Two-fifths of the cubes are green. One-third of the remaining cubes are pink. If there are 18 purple cubes, how many green cubes are in the crate?

18

12

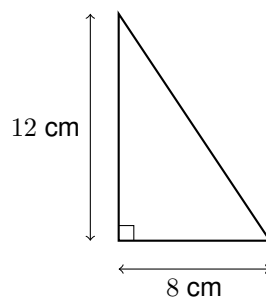
15

24

20

9.

The diagram shows a right-angled triangle with an area of 48 cm^2 . The vertical height is 12cm, and the base measures 8cm. What is the total perimeter of this triangle?



32cm

36cm

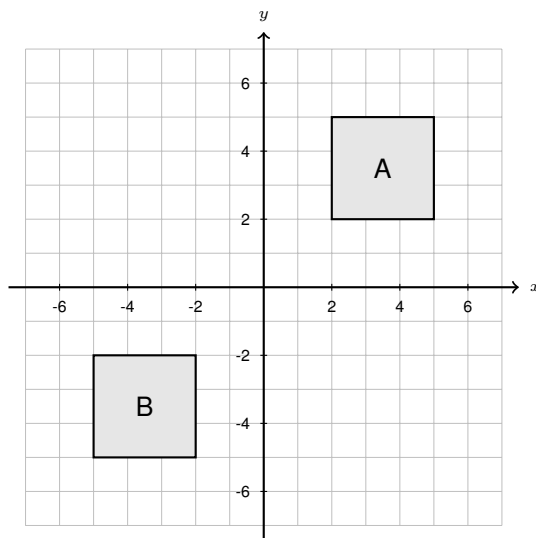
24cm

40cm

30cm

10.

Two squares are drawn on the grid below. Which option describes how square A can be transformed perfectly into square B?



Reflect x -axis

Reflect y -axis

Reflect $y = -x$

Shift L7, D7

Rotation at origin

11.

A container holds x litres of water. When 15 litres are poured out, the volume remaining is exactly one-quarter of the original capacity. Find the value of x .

20

25

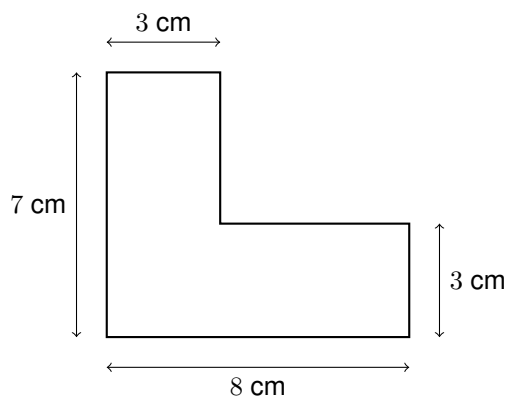
30

24

18

12.

The diagram shows a composite L-shape polygon. All corners are right angles (90°). What is the total area of this shape?



32 cm^2

36 cm^2

39 cm^2

42 cm^2

45 cm^2

13.

If $5^{12} \div 5^4 = 5^p$, what is the value of $p \times 2$?

8

16

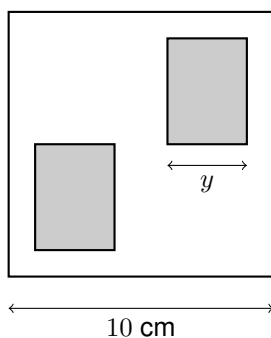
24

12

32

14.

A large outer square with a side length of 10cm contains two identical small shaded squares inside it, as shown. If the remaining unshaded area is 68 cm^2 , what is the side length y of each small square?



3

4

5

2

6

15.

An expression tracks savings:

$$2M + 3N = 45$$

$$2M + N = 25$$

What is the value of $M + N$?

15

20

25

10

30

16.

A jacket is reduced by 15% in a seasonal clearout sale. If the discount amount is exactly £18, what was the original retail price of the jacket?

£120

£100

£140

£110

£95

17.

A rectangular container has a base area of 24 cm^2 and a height of 5cm. If it is filled with water up to 75% of its maximum capacity, what volume of water is inside?

80 cm^3

90 cm^3

120 cm^3

100 cm^3

60 cm^3

18.

Consider the quadratic pattern: 2, 5, 10, 17, 26, ...
What is the next term in this sequence?

35

38

37

40

36

19.

A rectangle has a length of $(x + 4)$ cm and a width of 6 cm. If its total area is 54 cm^2 , what is the value of x ?

5

6

4

3

7

20.

A digital vault code uses four distinct numerical digits. The sum of the digits is 15. The first digit is three times larger than the last digit. The code represents a number exactly divisible by 5. What is the code?

9150

6450

9330

6540

9105

21.

Leo, Maya, and Noah are logging library books. Maya logs b books. Leo logs 4 more books than Maya. Noah logs half as many books as Leo. What expression represents the total count of logs between them?

$2.5b + 6$

$3b + 4$

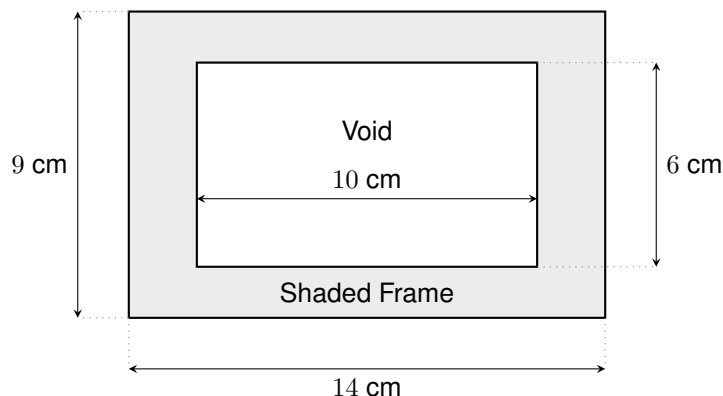
$2b + 6$

$2.5b + 4$

$3b + 6$

22.

The diagram shows a shaded frame made by cutting a smaller rectangle out of a larger rectangle. The diagram is not to scale. What is the area of the shaded frame region?



60 cm²

66 cm²

126 cm²

76 cm²

80 cm²

23.

A juice punch mix uses 3 parts orange juice, 5 parts apple juice, and 2 parts lemonade. If the total punch liquid produced contains 15 litres of apple juice, what is the total volume of punch made?

25 litres

30 litres

24 litres

40 litres

35 litres

24.

If $6k - 7 = 2k + 17$, what is the value of $3k + 2$?

18

20

22

24

16

25.

A set of identical small cubes with side lengths of 2cm are packed inside a box measuring 10cm by 6cm by 4cm. What is the maximum number of cubes that can fit inside the box?

60

30

20

15

40

26.

A farmer fields a total of 15 vehicles consisting of 2-wheeled bicycles and 4-wheeled quad bikes. If the farmer counts 44 total active wheels on the ground, how many quad bikes are in the field?

6

8

7

9

5

27.

An algebraic machine takes an input x , multiplies it by 3, and subtracts 5. If the same input x is put into a second machine that adds 7, both machines give the exact same output. Find x .

4

5

6

7

3

28.

Runner A runs a straight path of 4km at a constant pace of 8km per hour. Runner B tracks an alternative track of 5km and arrives at the finish line at the exact same moment as Runner A. Calculate Runner B's speed?

9 km/h

10 km/h

11 km/h

12 km/h

8.5 km/h

29.

A square has an area of 64 cm^2 . If the length of each side is doubled, what is the area of the new larger square?

128 cm^2

192 cm^2

256 cm^2

160 cm^2

320 cm^2

30.

Chloe is four times older than her cousin Liam. In 8 years' time, Chloe will be exactly twice as old as Liam. How old is Chloe right now?

12

16

20

8

24

31.

Which of the following expressions will always result in an odd value for any integer input n ?

$2n + 1$

n^2

$3n$

$n + 2$

$2n$

32.

A pool drainage valve removes V litres of water each minute. After 12 minutes, the pool has lost 15% of its total initial volume. If $V = 25$, what is the total capacity of the pool?

1,500 litres

1,800 litres

2,000 litres

2,400 litres

2,500 litres

33.

A parallelogram has a base of 14cm and a slant height of 8cm. If the vertical perpendicular height is 6cm, what is the total area of the parallelogram?

112 cm²

84 cm²

48 cm²

96 cm²

56 cm²

34.

At 09:15, a train has completed exactly $\frac{1}{4}$ of its scheduled journey time. At 09:55, it has completed 75% of its journey time. What time did the train start its journey?

08:45

08:50

08:55

09:00

08:35

35.

A school selection group contains 60 students. There are 6 more girls than boys. If 70% of all students pass the entrance test and 4 boys fail, how many girls pass the selection test?

23

21

25

27

19

36.

An algebraic expression describes a composite compound shape area: $\text{Area} = 3x^2 + 5x$. If $x = 4$ cm, what is the total calculated surface area of the shape?

64 cm²

68 cm²

72 cm²

80 cm²

76 cm²

WORKED SOLUTIONS & ANSWER KEY

Q	Ans	Q	Ans	Q	Ans
1	-5	13	16	25	30
2	8.85	14	4	26	7
3	0.375	15	15	27	6
4	72,963	16	£120	28	10 km/h
5	600	17	90 cm ³	29	256 cm ²
6	18	18	37	30	16
7	15	19	5	31	$2n + 1$
8	24	20	9150	32	2,000 litres
9	36cm	21	$2.5b + 6$	33	84 cm ²
10	Reflect $y = -x$	22	66 cm ²	34	08:55
11	20	23	30 litres	35	25
12	39 cm ²	24	20	36	68 cm ²