

NUMERACY NON-CALCULATOR



YEAR

9
2013

SESSION 2

0:40

Time available for students to
complete test: 40 minutes

Use 2B or HB
pencil **only**



YEAR 9 NUMERACY (NON-CALCULATOR)



1

How much is three-quarters of \$600?

\$150

☐

\$360

☐

\$400

☐

\$450

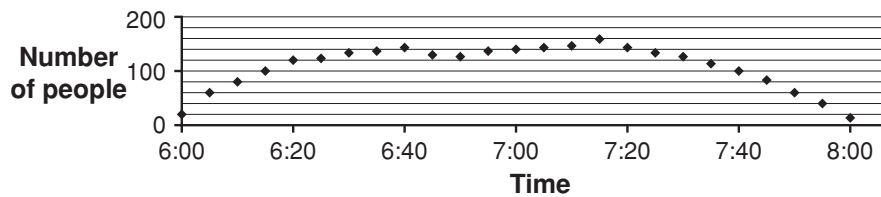
☐

\$800

☐

2

This graph shows the number of people in a school hall at 5-minute intervals over 2 hours.



At which of these times was the greatest number of people in the hall?

6:40

☐

7:00

☐

7:15

☐

7:20

☐

3

This fence has five sections of equal length.



Three of the sections have been painted black.

What percentage of the whole fence has been painted **black**?

3%

☐

18%

☐

30%

☐

40%

☐

60%

☐

4

At a ski resort the morning temperature was -11°C .

In the afternoon the temperature was 5°C .

What was the change in temperature from the morning to the afternoon?

decrease of 16°C

☐

decrease of 6°C

☐

increase of 6°C

☐

increase of 16°C

☐

YEAR 9 NUMERACY (NON-CALCULATOR)



5 $6 \times (4 + 2)$? $4 \times 5 + 6$

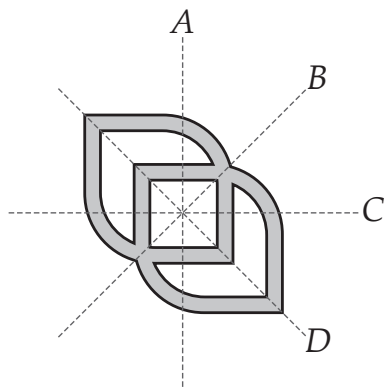
Which symbol ($<$, $=$, $>$) should replace ? to make the number sentence correct?

$<$
☐

$=$
☐

$>$
☐

6 Which are the lines of symmetry of this shape?



A and C
☐

B and D
☐

B and C
☐

A and D
☐

7 What is the probability of an event that is certain to happen?

0.0
☐

0.5
☐

1.0
☐

1.5
☐

8 2015 is called a tri-square year because

$$2^2 + 0^2 + 1^2 = 5$$

The **next** tri-square year after 2015 will be

2019
☐

2028
☐

2109
☐

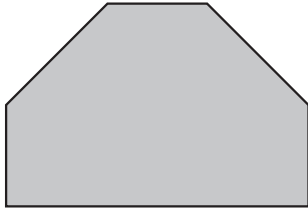
2116
☐

YEAR 9 NUMERACY (NON-CALCULATOR)



9

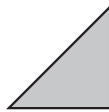
This paper shape was cut into several identical pieces with no paper left over.



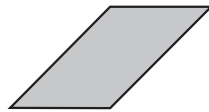
Which of these could be the shape of the pieces?



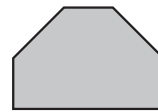
☐



☐



☐

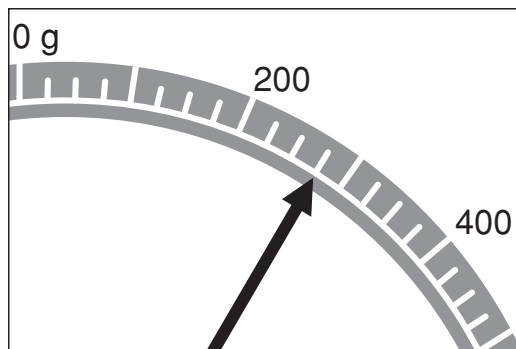


☐

10

Finn put some flour on his kitchen scales.

The picture shows part of the dial.



How many grams of flour did Finn put on the scales?

230

☐

260

☐

275

☐

280

☐

325

☐

11

$$3^4 - 3^2 = ?$$

6

☐

9

☐

72

☐

75

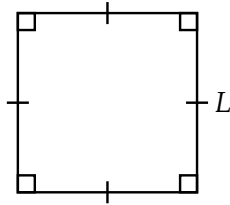
☐

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12

This square has side length L .



Which of these expressions could not be used for the perimeter of the square?

$L \times 4$

☐

$L \times L$

☐

$2 \times (L + L)$

☐

$L + L + L + L$

☐

13

Which of the following triangle types is **impossible** to draw?

- ☐ a scalene, right-angled triangle
- ☐ an isosceles, acute-angled triangle
- ☐ an isosceles, obtuse-angled triangle
- ☐ an equilateral, right-angled triangle

14

The first track on a CD runs for 2 minutes 45 seconds.

The second track runs for 4 minutes 25 seconds.

What is the difference in running time between the two tracks?

- ☐ 1 minute 40 seconds
- ☐ 2 minutes 20 seconds
- ☐ 2 minutes 40 seconds
- ☐ 7 minutes 10 seconds

15

Max has 3.98 litres of lemonade in bottles.

The bottles come in three sizes: 1.5 litres, 650 millilitres, 330 millilitres.

All the bottles are full.

How many bottles does Max have?

4

☐

6

☐

7

☐

10

☐

12

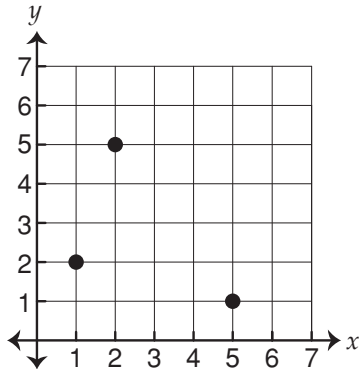
☐

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16

This graph shows three corners of a parallelogram.



Which of these points is the fourth corner?

(4, 6)

☐

(5, 5)

☐

(6, 4)

☐

(6, 5)

☐

17

In the past month, five houses were sold in Liz's neighbourhood.

The selling price for each house is listed below.

\$225 000, \$225 000, \$355 000, \$275 000, \$380 000

What was the **median** selling price for these five houses?

\$225 000

☐

\$275 000

☐

\$292 000

☐

\$355 000

☐

18

Which of these is equivalent to $-(x + 2)$?

$-x - 2$

☐

$x - 2$

☐

$-x + 2$

☐

$x + 2$

☐

19

$$10x > x^2$$

What is the largest whole number x can be?

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20

Meg has an electronic photo display.

Each photo remains on the screen for 9 seconds.

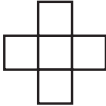
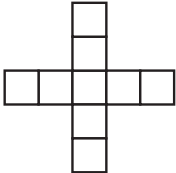
Meg has 100 photos on her memory card.

How many **minutes** will it take to complete the display of all photos?

minutes

21

The table below shows a pattern of shapes.

Shape number (N)	1	2	3
			
Number of squares (S)	1	5	9

The equation which is used to show the relationship between S and N is

$S = N + 4$



$S = 4N$



$S = 4N + 4$



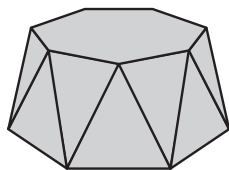
$S = 4N - 3$



22

The top and bottom faces of this object are both regular 7-sided polygons.

The other faces are isosceles triangles.



How many **edges** does the object have?

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23

Three friends share a job.

They share their total pay based on the number of days each worked.

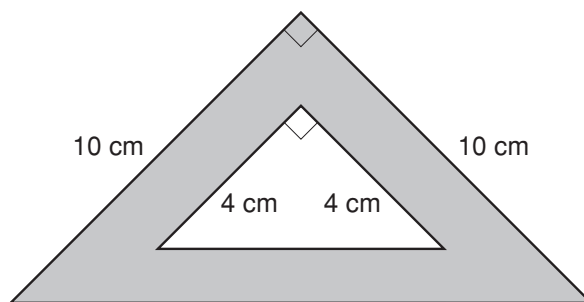
	Days worked
Jake	1
Ryan	4
Matt	2

This week their total pay is \$420.

What is Matt's share?

\$

24

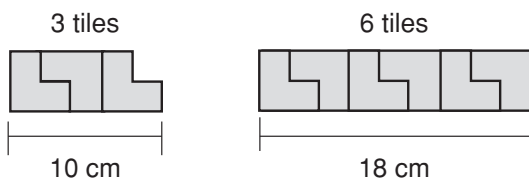


What is the area of the grey part of the shape?

square centimetres

25

Ruby joins some tiles to make lines of different lengths.



She follows the same pattern to make a line that is 60 cm long.

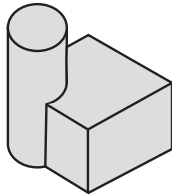
How many tiles are in this line?

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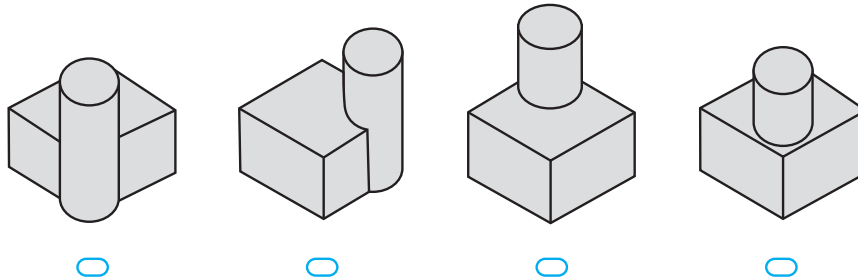


26

Emily drew this picture of a building. It shows a view of the building from the north.

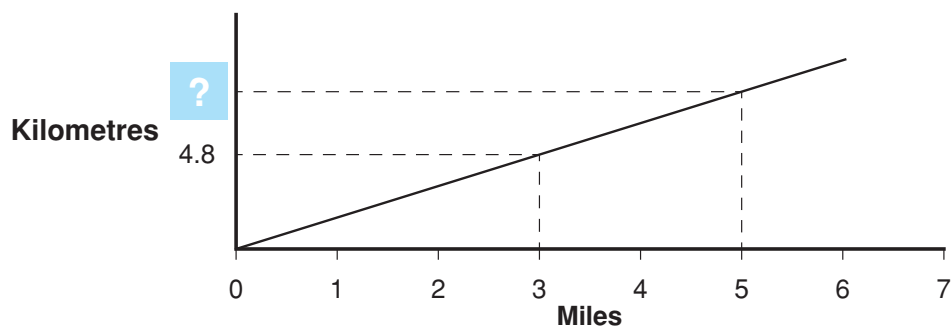


Which of these is a view of the building from the east?



27

This graph can be used to approximately convert miles to kilometres.



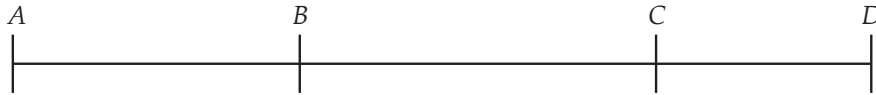
Using the graph, a distance of 5 miles is closest to

- ☐ 6.3 kilometres.
- ☐ 6.8 kilometres.
- ☐ 7.2 kilometres.
- ☐ 8.0 kilometres.

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28



The distance from A to B is one-third of the distance from A to D .

The distance from C to D is one-quarter of the distance from A to D .

The distance from B to C is 150 millimetres.

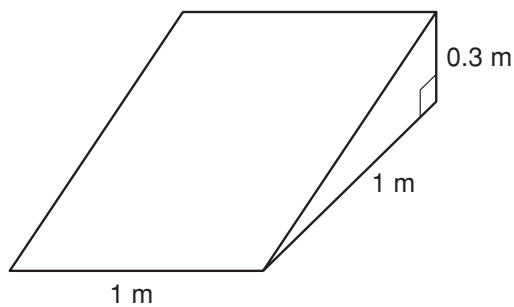
What is the distance from A to D ?

millimetres

29

This skateboard ramp is a triangular prism.

It is filled with sand.



What is the volume of the sand?

0.15 m^3

☐

0.3 m^3

☐

1.5 m^3

☐

3 m^3

☐

30

A population of kangaroos has a death rate of 1 kangaroo every 2 days.

The same population of kangaroos has a birth rate of 1 kangaroo every 3 days.

Overall, the population is decreasing at the rate of 1 kangaroo every x days.

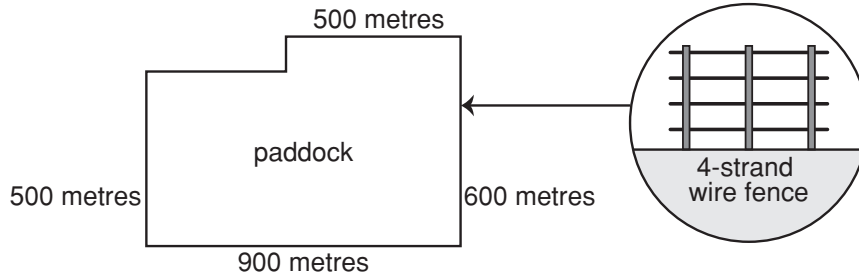
What is the value of x ?

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31

A new fence is to be built around the perimeter of this paddock.
The fence is to have 4 strands of wire as shown.

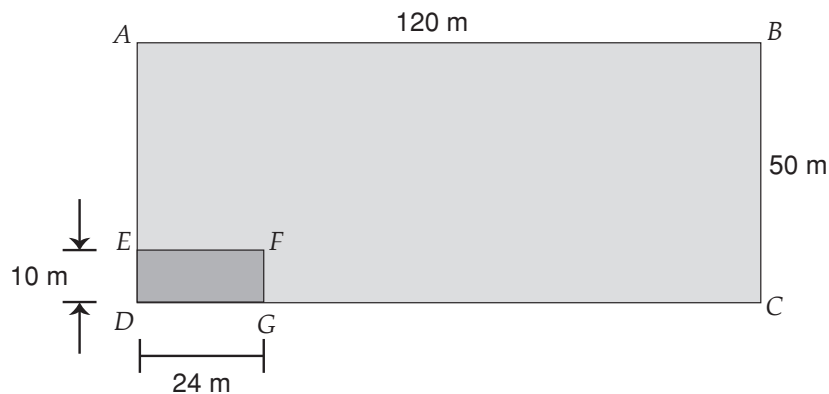


How many **kilometres** of wire are needed?

kilometres

32

A teacher marked out two rectangles on a sports field as shown.



Rectangles $ABCD$ and $EFGD$ are similar.
The distance from D to F is 26 metres.

What is the distance from F to B ?

metres

STOP – END OF TEST