

Test 6: Calculator allowed



Instructions

- A correct answer scores 1 mark, and an incorrect answer scores 0.
- Marks are not deducted for incorrect answers.
- No marks are given if more than one answer alternative is shaded.
- Choose the alternative which most correctly answers the question and shade in the box next to it.

QUESTION 1

If $a = 6$, what is the value of $9a$?

☐ 96

☐ 72

☒ 54

☐ 48

SHADE ONE BOX

QUESTION 2

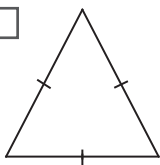
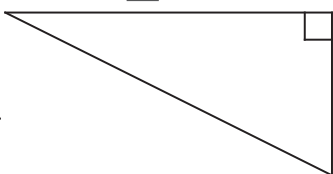
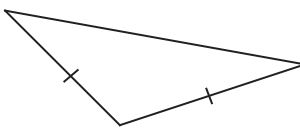
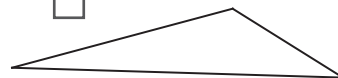
At 7.00 a.m. the temperature in Brownlea was 10.8°C . At midday it was 6.9°C warmer. By 5.00 p.m. the temperature had dropped 7.3°C from its midday temperature. What was the temperature at 5.00 p.m.?

☐ 3.4°C
☒ 10.4°C
☐ 11.2°C
☐ 25.0°C

SHADE ONE BOX

QUESTION 3

Which one of these is an isosceles triangle?

☐

☐

☒

☐


SHADE ONE BOX

QUESTION 4

Arrange in ascending order: 0.2 , 20 , $\frac{1}{2}$, 2% .

☐ $20, \frac{1}{2}, 0.2, 2\%$
☐ $2\%, \frac{1}{2}, 20, 0.2$
☐ $0.2, 2\%, \frac{1}{2}, 20$
☒ $2\%, 0.2, \frac{1}{2}, 20$

SHADE ONE BOX

QUESTION 5

If the sun rises at 6:27 a.m. and sets at 5:42 p.m., how many hours and minutes are there from sunrise to sunset?

11 hours and 15 minutes



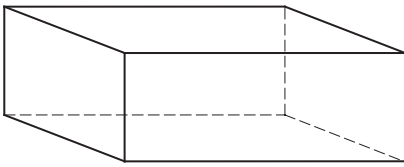
WRITE YOUR OWN ANSWER

QUESTION 6

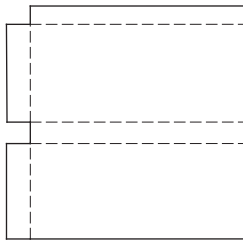
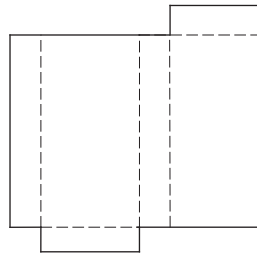
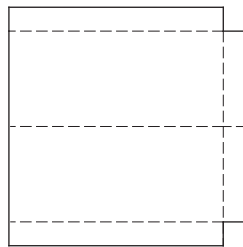
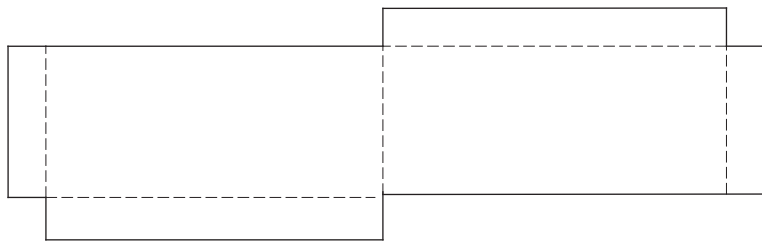
SHADE ONE BOX



This is a rectangular prism.



Which diagram shows the net of a rectangular prism?

☐

☒

☐

☐


QUESTION 7



WRITE YOUR OWN ANSWER

The amount of water from a rainwater tank used by Bernadette's family for a period of four months is shown in the table below.

Month	1	2	3	4
Amount of water used (in litres)	6403	3712	5288	4957

What is the average amount of water used per month?

5090 litres

QUESTION 8

SHADE ONE BOX



A table of values is shown for x and y .

x	0	0.5	1	1.5	2
y	0	0.25	1	2.25	4

Which one of the following is the correct rule for y in terms of x ?

☐ $y = 2x$

☒ $y = x^2$

☐ $y = \frac{x}{2}$

☐ $y = 2x - 2$

QUESTION 9

SHADE ONE BOX



Fai bought a packet of eight pens for \$6. What is the price of each pen?

☐ \$0.60

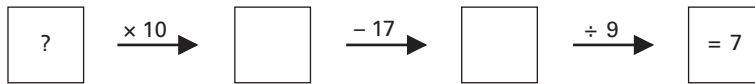
☒ \$0.75

☐ \$1.33

☐ \$2

QUESTION 10**WRITE YOUR OWN ANSWER**

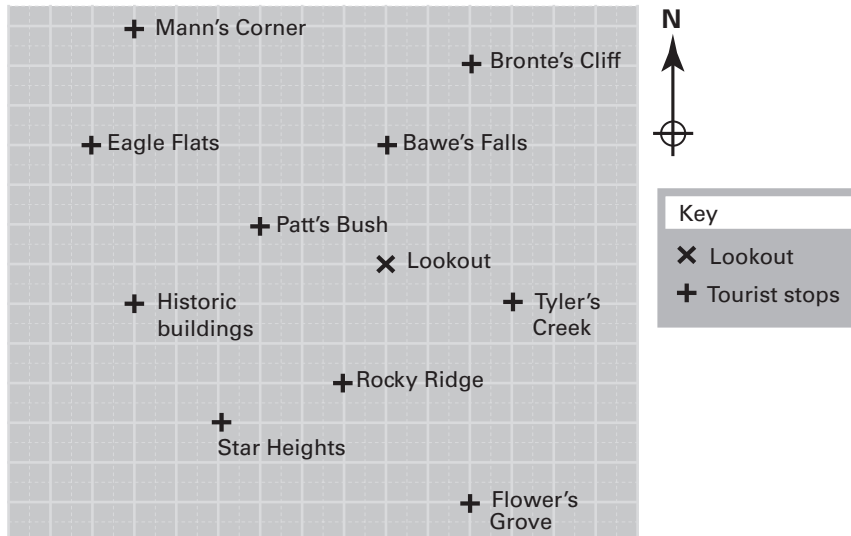
A flow chart is shown below.



What is the starting number? 8

QUESTION 11**SHADE ONE BOX**

This is a map of a tourist area.

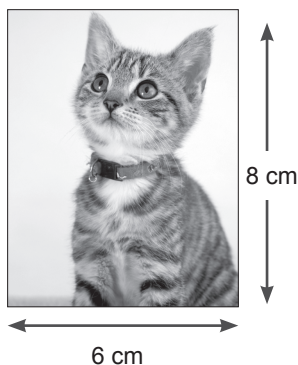


Amy is at the Lookout facing east. She turns 135° in an anticlockwise direction. Which tourist attraction is she now facing?

- ☒ Mann's Corner ☐ Patt's Bush ☐ Star Heights ☐ Rocky Ridge

QUESTION 12**SHADE ONE BOX**

Rekha wants to enlarge this photograph of her pet cat.



The enlarged photograph is four times as long and four times as wide as the original. What is the area of the enlarged photograph?

- ☐ 4 times the area of the original
☐ 8 times the area of the original
☒ 16 times the area of the original
☐ 24 times the area of the original

QUESTION 13

SHADE ONE BOX



A recipe requires $\frac{2}{3}$ of a cup of flour. Ben is going to make double the recipe. How many cups of flour does he need?

☐ $\frac{4}{6}$

☐ $\frac{3}{2}$

☐ $1\frac{1}{6}$

☒ $1\frac{1}{3}$

QUESTION 14

SHADE ONE BOX



There are 40 marbles in a box. Fifteen marbles are green and the rest are white. David picks a marble from the box without looking. What is the chance that David picks a white marble?

☐ 2 in 8

☐ 3 in 8

☐ 4 in 8

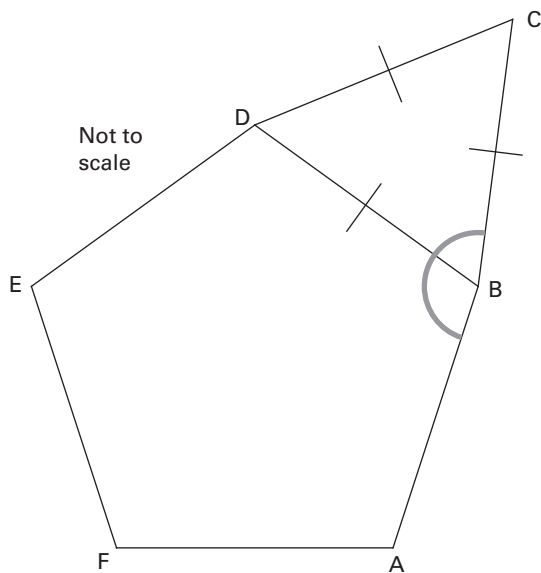
☒ 5 in 8

QUESTION 15

WRITE YOUR OWN ANSWER



An equilateral triangle has a common side with a regular pentagon on side BD. What is the size of angle ABC shown below?



168°

QUESTION 16

SHADE ONE BOX



Melbourne is two hours behind New Zealand in time. A plane leaves New Zealand at 10.45 a.m. and flies to Melbourne. The flight takes three hours. What time is it in Melbourne when the plane arrives?

☒ 11.45 a.m.

☐ 12.45 p.m.

☐ 1.45 p.m.

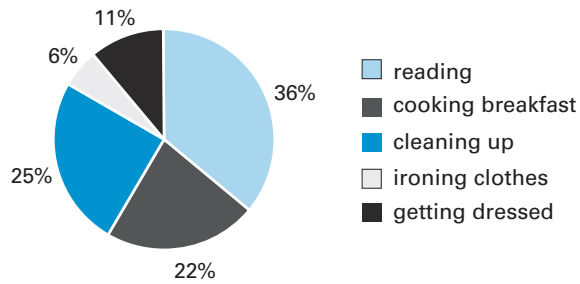
☐ 2.45 p.m.

QUESTION 17

SHADE ONE BOX

In a three-hour period one morning, Johan spent time on the following activities.

Johan's morning activities



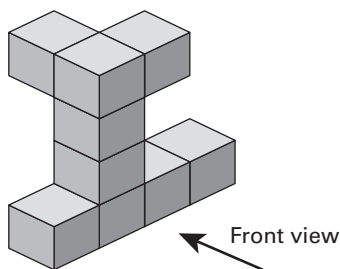
How much time did Johan spend cleaning up?

- ☐ 25 minutes
- ☐ 40 minutes
- ☒ 45 minutes
- ☐ 1 hour

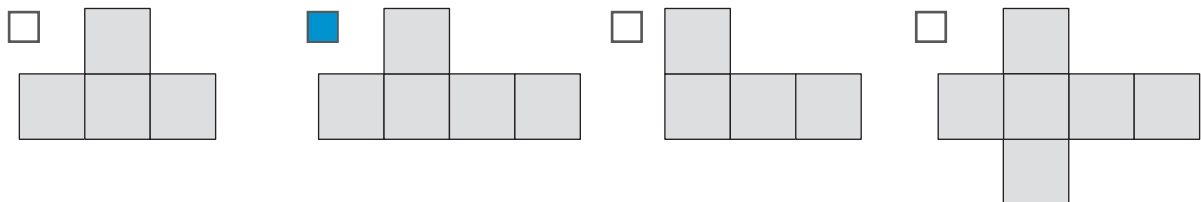
QUESTION 18

SHADE ONE BOX

The object below was made using identical cubes



Which diagram below shows the top view of this solid?



QUESTION 19

SHADE ONE BOX

A Christmas bauble is the shape of a sphere. It has a radius of 4 cm

The volume, V , of the sphere is given by the formula $V = \frac{4}{3}\pi r^3$, where r is the radius of the sphere in centimetres. What is the volume of this Christmas bauble closest to?

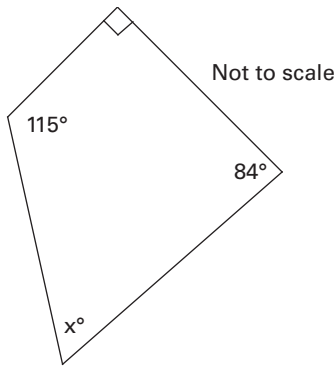


- ☐ 50 cm³ ☐ 120 cm³ ☐ 200 cm³ ☒ 270 cm³

QUESTION 20

What is the value of x ?

SHADE ONE BOX



☒ 71

☐ 85

☐ 96

☐ 101

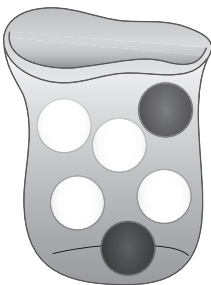
QUESTION 21

Sujay takes one ball out of his bag without looking. Sujay chooses the bag that is most likely to choose a black ball. Which bag does he choose?

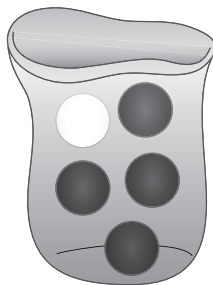
SHADE ONE BOX



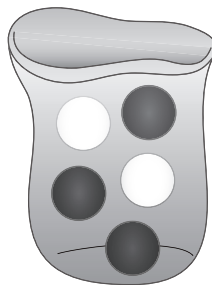
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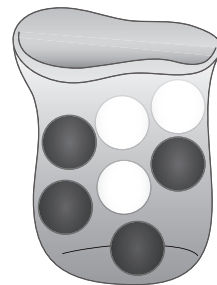
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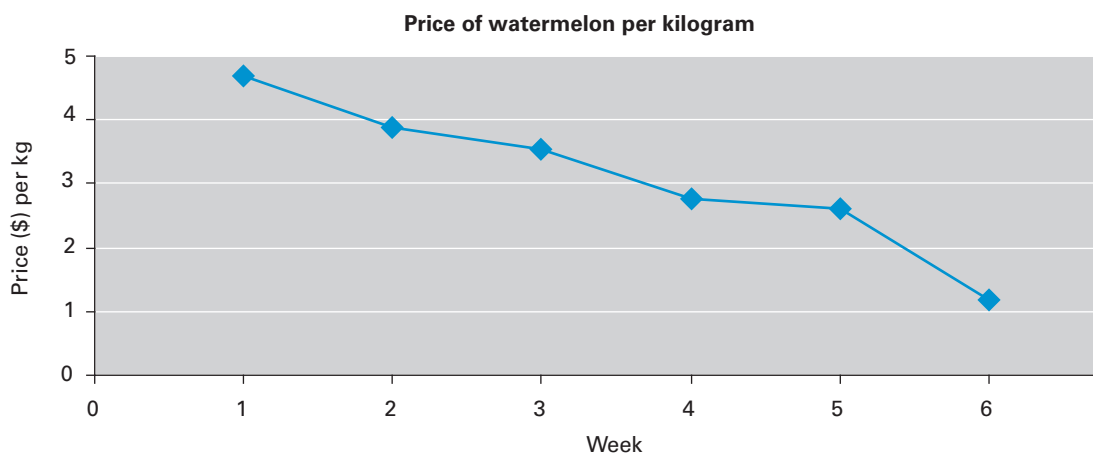
☐



QUESTION 22

Lynton buys watermelon at the supermarket. He constructed a line graph to show the price per kilogram for watermelon over a six-week period.

SHADE ONE BOX



Which one of the following statements is true?

☐ In week 1, the cost of 2 kg of watermelon was \$8.

☒ The price of 1 kg of watermelon was less than \$3 in week 4.

☐ The cost of 1 kg of watermelon halved in week 2.

☐ The largest drop in price for 1 kg of watermelon was from week 4 to week 5

QUESTION 23

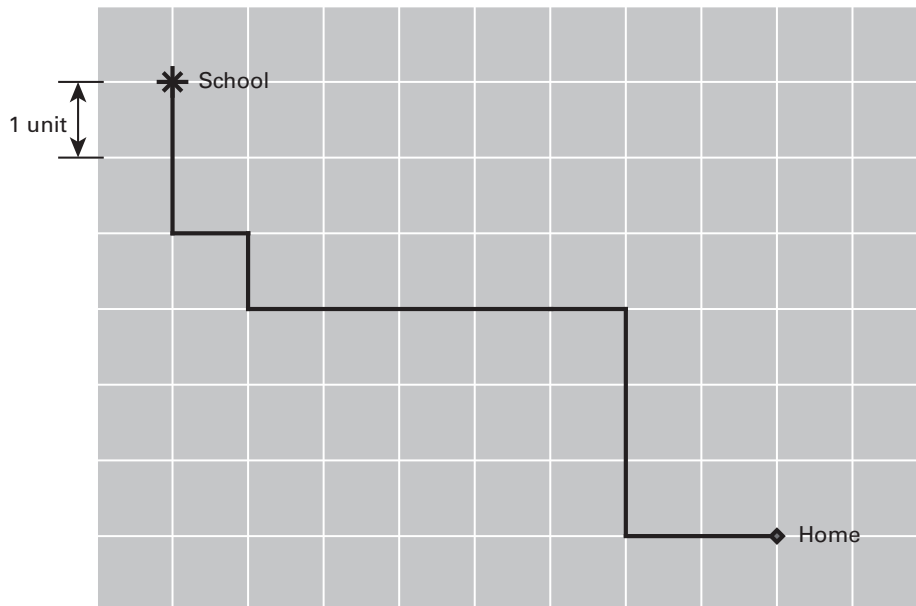
SHADE ONE BOX

Year 9 students attend a sports training day. Boys and girls attend the training day in the ratio 2:3. If 60 girls attended the day, how many boys were there?

☒ 40☐ 24☐ 36☐ 20**QUESTION 24**

SHADE ONE BOX

This is a map of the route Sienna takes to walk to school. The map is drawn to scale.



The total distance she travels to school is 840 metres. What is the scale of the map?

☐ 1 unit = 30 m☐ 1 unit = 45 m☐ 1 unit = 55 m☒ 1 unit = 60 m**QUESTION 25**

SHADE ONE BOX

Sarah wants to draw the graph of the line $y = 3x - 4$. Which pair of points would this line pass through?

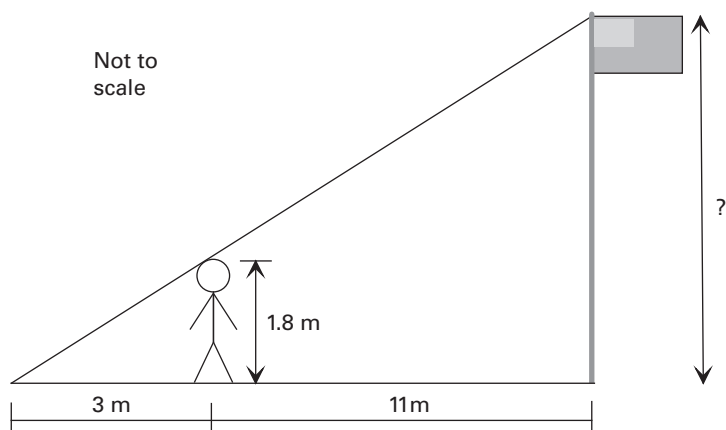
☐ (3, 0) and (0, 4)☒ $(1\frac{1}{3}, 0)$ and $(0, -4)$ ☐ $(0, 1\frac{1}{3})$ and $(4, 0)$ ☐ (0, 3) and $(-4, 0)$

QUESTION 26

SHADE ONE BOX



Jake is 1.8 m tall. He casts a shadow 3 m long when he stands 11 m from the base of a flagpole.



What is the height of the flagpole?

☐ 6.6 m

☐ 7.2 m

☒ 8.4 m

☐ 9.8 m

QUESTION 27

SHADE ONE BOX



Alexandra can ride her bike at a speed of 4 metres per second. How long, in hours and minutes, will it take her to ride 25 km to the nearest minute?

☐ 6 hours 15 minutes

☐ 6 hours 45 minutes

☒ 1 hour 44 minutes

☐ 1 hour 74 minutes

QUESTION 28



WRITE YOUR OWN ANSWER

What is the value of y in the equation $7y - 11 = 3y + 17$?

$y = 7$

QUESTION 29

SHADE ONE BOX



This list shows the number of books read by members of a book club in March.

Number of books read

1, 2, 3, 5, 5, 6, 8, 8, 8, 9

Which one of the following is true for this data?

☐ mean < median < mode

☒ mean = median < mode

☐ mean < median = mode

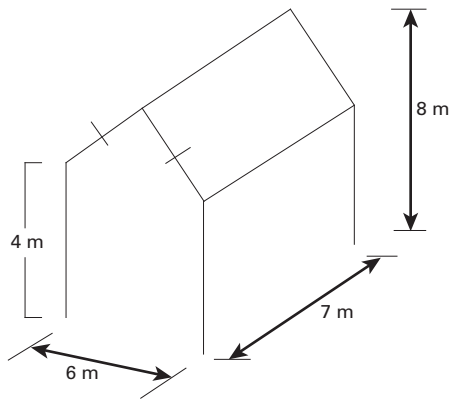
☐ mean = median = mode

QUESTION 30

SHADE ONE BOX



A bus stop shelter is shown in the diagram below. It is open at both ends.



What is the area of metal needed to make the roof of this bus stop shelter?

☐ 98 m²☐ 84 m²☒ 70 m²☐ 56 m²**QUESTION 31**

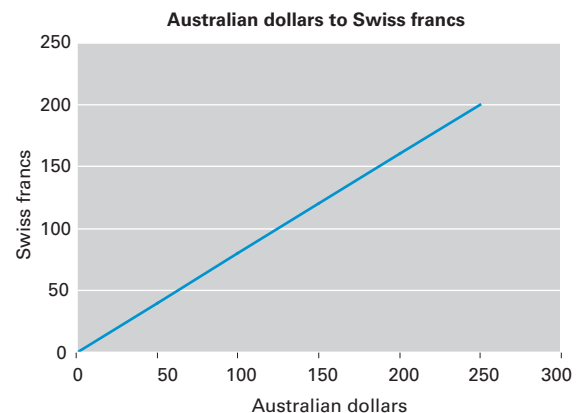
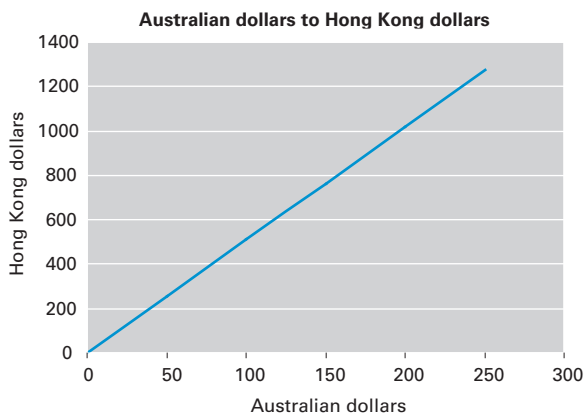
WRITE YOUR OWN ANSWER

Tahlia has read one-third of a book. If she reads another 65 pages, she will have read half of the book. How many pages are there in this book?

 pages**QUESTION 32**

WRITE YOUR OWN ANSWER

Ella uses these two conversion graphs.



Approximately how many Swiss francs are equal in value to 1000 Hong Kong dollars?

 Swiss francs