

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

Which of the following pairs are equivalent?

☐ 33% and $\frac{1}{3}$

☐ 0.5 and 5%

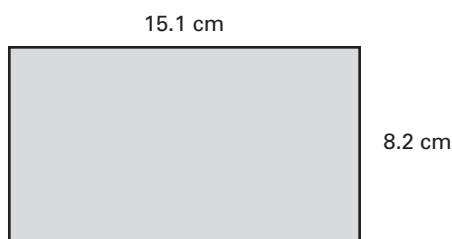
☐ 0.24 and $\frac{1}{4}$

☐ $\frac{1}{5}$ and 0.2

SHADE ONE BOX

QUESTION 2

What is the area of the rectangle?



☐ 123.82 cm²

☐ 147.12 cm²

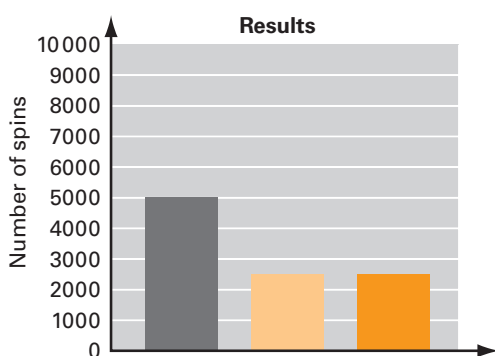
☐ 294.24 cm²

☐ 123.82 cm²

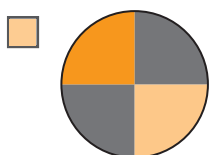
SHADE ONE BOX

QUESTION 3

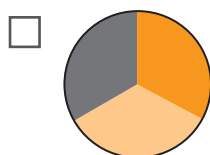
A spinner is spun 10000 times and the results are shown in the graph.



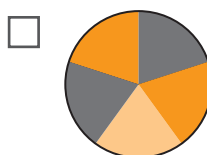
Which of the following spinners is most likely to give these results?



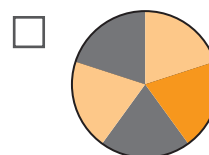
Spinner 1



Spinner 2



Spinner 3

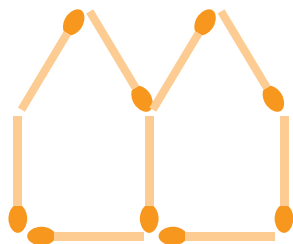


Spinner 4

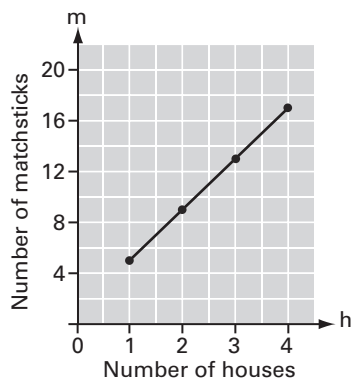
SHADE ONE BOX

QUESTION 4

Charlie was making terrace houses from matchsticks. Once she had finished, she drew a graph of her results.



Two-house terrace



SHADE ONE BOX



What is the rule that connects the number of houses (h) to the number of matchsticks (m)?

☐ $h = 4m + 1$

☐ $h = m + 4$

☒ $m = 4h + 1$

☐ $m = h + 4$

QUESTION 5

Which one of the following statements is true?

☐ The highest common factor of 12 and 20 is 2.

☐ The highest common factor of 15 and 30 is 2.

☐ The highest common factor of 15 and 30 is 6.

☒ The highest common factor of 12 and 30 is 6.

SHADE ONE BOX



QUESTION 6

Four people went shopping at the supermarket. Their dockets are shown below. Who spent the most?

SHADE ONE BOX



| Kirstie | Scott | Brigid | Ronald |
|---------|--------|--------|--------|
| 1.14 | 49.03 | 10.95 | 39.67 |
| 69.15 | 55.33 | 10.93 | 59.02 |
| 91.60 | 96.08 | 22.38 | 112.89 |
| 22.55 | 3.65 | 62.08 | 46.74 |
| 1.28 | 27.65 | 19.79 | 16.82 |
| 46.36 | 77.11 | 7.10 | 138.96 |
| 84.07 | 182.69 | 34.10 | 38.32 |
| 59.07 | 46.88 | 86.37 | 38.62 |
| 58.79 | 95.58 | 36.86 | 38.62 |
| 93.72 | 32.20 | 23.85 | 36.63 |

☐ Kirstie

☒ Scott

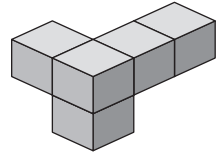
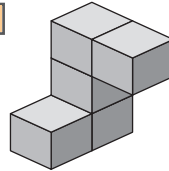
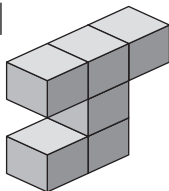
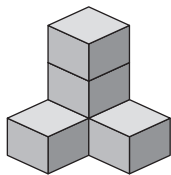
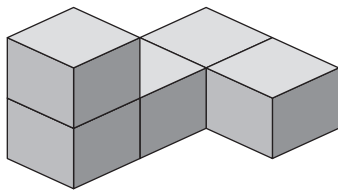
☐ Brigid

☐ Ronald

QUESTION 7

Which of the following solids below is identical to this one?

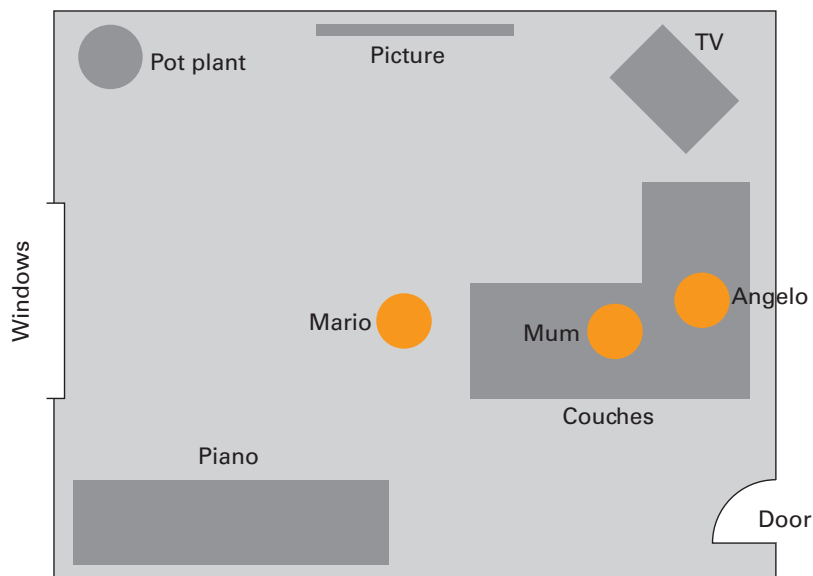
SHADE ONE BOX



QUESTION 8

Mario is standing in the middle of a room, facing the window, as shown.

SHADE ONE BOX



If Mario has turned anticlockwise to face the TV, through what type of angle has he turned?

- ☐ an acute angle
- ☐ an obtuse angle
- ☐ a right angle
- ☒ a reflex angle

QUESTION 9

What is the sixth element in this pattern?

1, 2, 4, 8 ...

32



WRITE YOUR OWN ANSWER

QUESTION 10

SHADE ONE BOX



Which set of measurements is written in ascending order?

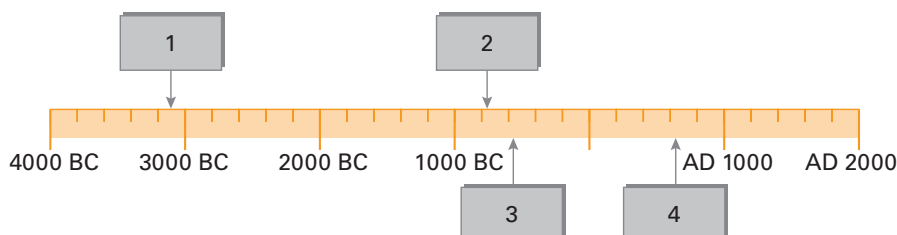
- ☐ 3.1 cm, 3.01 cm, 31.5 mm, 31.05 mm
- ☐ 31.5 mm, 31.05 mm, 3.01 cm, 3.1 cm
- ☐ 31.5 mm, 31.05 mm, 3.1 cm, 3.01 cm
- ☒ 3.01 cm, 3.1 cm, 31.05 mm, 31.5 mm

QUESTION 11

SHADE ONE BOX



The traditional date for the flight of Muhammad is AD 662.



On which label on the time line would you place this event?

- ☐ label 1 ☐ label 2 ☐ label 3 ☒ label 4

QUESTION 12



WRITE YOUR OWN ANSWER

A la Romana Pizza House has the following price list.

| PIZZA | | | | |
|---------------------|--------|-------------------|--------|--------|
| | Small | Medium | Large | Family |
| BBQ Chicken | \$5.50 | \$6.50 | \$7.50 | \$9.50 |
| Ham & Cheese | \$4.90 | \$5.90 | \$6.90 | \$8.90 |
| Meatlovers | \$4.90 | \$5.90 | \$6.90 | \$8.90 |
| Vegetarian | \$4.90 | \$5.90 | \$6.90 | \$8.90 |
| The Lot | \$4.90 | \$5.90 | \$6.90 | \$8.90 |
| Cheese | \$5.50 | \$6.50 | \$7.50 | \$9.50 |
| Hawaiian | \$4.90 | \$5.90 | \$6.90 | \$8.90 |
| Mexicana | \$4.90 | \$5.90 | \$6.90 | \$8.90 |
| Extras | \$0.40 | \$0.60 | \$0.80 | \$1.00 |
| Garlic bread \$2.20 | | Herb bread \$2.20 | | |
| Delivery fee \$2.50 | | | | |

Damien and his friends order one medium meatlovers pizza, one garlic bread and two large cheese pizzas to be delivered. How much will it cost?

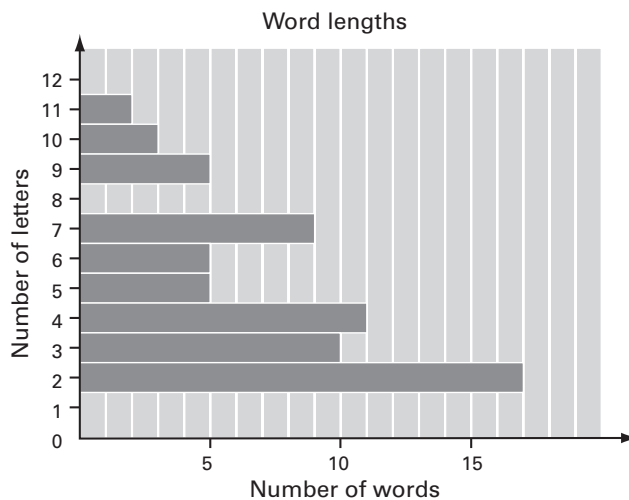
\$ 25.60

QUESTION 13

SHADE ONE BOX



One measure of the difficulty of reading is the length of words in a random paragraph. The graph below shows the analysis of a paragraph in *The Dark Sun*.



What statement below is true about this graph?

- ☐ The longest word had 15 letters.
- ☒ There was the same number of words with 5 and 6 letters.
- ☐ The most common number of letters in a word was 4.
- ☐ There were no words with 7 letters.

QUESTION 14

WRITE YOUR OWN ANSWER

What is the missing number?

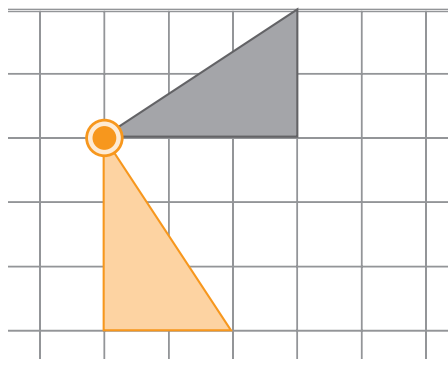
$$27 \times \boxed{96} = 18 \times 18 \times 8$$

QUESTION 15

SHADE ONE BOX



The grey shape in the diagram has been rotated to make the orange shape.

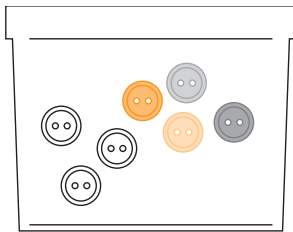


What is the best description of the rotation?

- ☒ 90° clockwise
- ☐ 90° anticlockwise
- ☐ 180° clockwise
- ☐ 270° clockwise

QUESTION 16

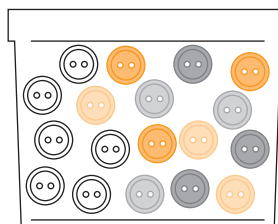
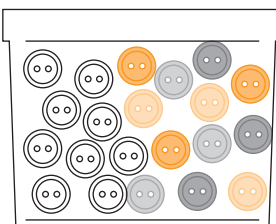
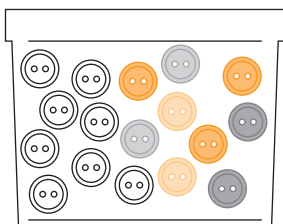
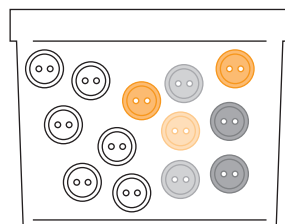
Nana's button tin has lots of white buttons and lots of coloured buttons. This shows the ratio of white buttons to coloured buttons in Nana's tin.



SHADE ONE BOX

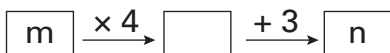


Which of the following diagrams shows another tin with the same ratio of white to coloured buttons?



QUESTION 17

What is the rule shown by this flow chart?



SHADE ONE BOX



☐ $m = 4n + 3$

☐ $m = n + 7$

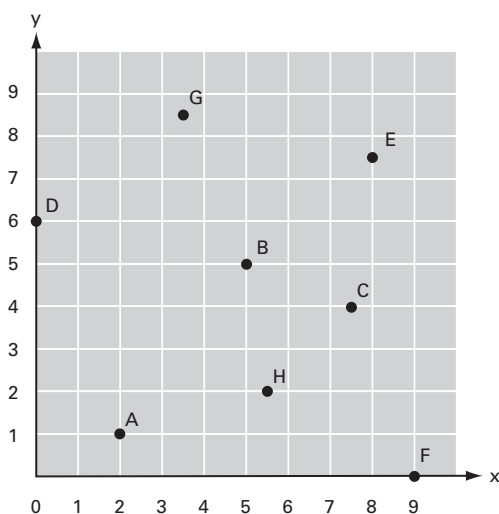
☐ $n = m + 7$

☒ $n = 4m + 3$

QUESTION 18

Which letter has the coordinates (3.5, 8.5)?

SHADE ONE BOX



☒ G

☐ H

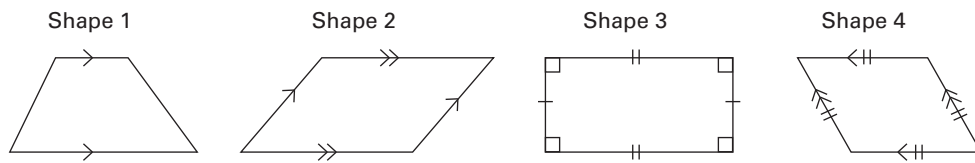
☐ E

☐ C

QUESTION 19

SHADE ONE BOX

Which of the following statements is true about the following shapes?



- ☐ Shape 1 is a rhombus.
- ☐ Shape 2 is a trapezium.
- ☒ Shape 3 is a rectangle.
- ☐ Shape 4 is a square.

QUESTION 20

SHADE ONE BOX

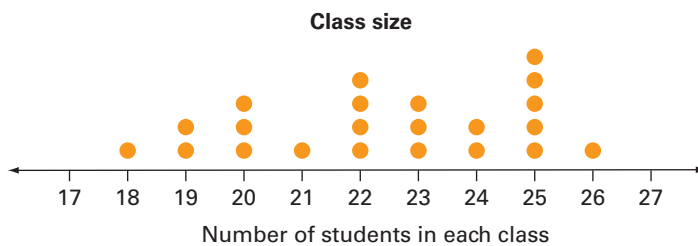
Which of the following is the most likely answer for the area of a stamp?

- ☐ 2 mm² ☒ 2 cm² ☐ 2 m² ☐ 2 km²

QUESTION 21

WRITE YOUR OWN ANSWER

The graph below shows the number of students in each class at Fairview Primary School.



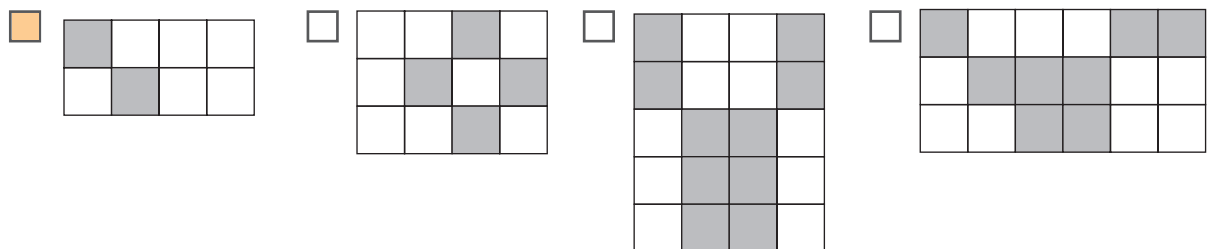
What is the range of the data?

8

QUESTION 22

SHADE ONE BOX

Which of the following diagrams has 25% shaded?

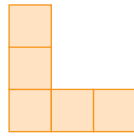


QUESTION 23**WRITE YOUR OWN ANSWER**

An L-shaped pattern is made with tiles as shown.



Arm length 1



Arm length 2

What is the value of x in the table?

11

| Arm length | Number of tiles |
|------------|-----------------|
| 1 | 3 |
| 2 | 5 |
| 3 | |
| 4 | |
| 5 | x |

QUESTION 24**SHADE ONE BOX**

The table below shows the road distance between mainland Australian capital cities.

| Adelaide | | | | | | |
|----------|----------|----------|--------|-----------|-------|--------|
| 2131 | Brisbane | | | | | |
| 1210 | 1295 | Canberra | | | | |
| 3212 | 3493 | 4229 | Darwin | | | |
| 745 | 1736 | 655 | 3957 | Melbourne | | |
| 2749 | 4390 | 3812 | 4342 | 3494 | Perth | |
| 1431 | 1027 | 304 | 4060 | 893 | 3988 | Sydney |

Which two cities are closest together by road?

- ☐ Melbourne and Canberra
- ☐ Brisbane and Sydney
- ☒ Canberra and Sydney
- ☐ Melbourne and Sydney

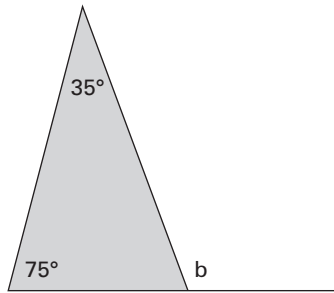
QUESTION 25**SHADE ONE BOX**

Many newspaper headlines have a measurement theme. Which of the following headlines has a length theme?

- ☒ Ozone layer thinning!
- ☐ Nugget bigger than the 'Welcome Stranger' found by accident.
- ☐ Queensland's hottest day!
- ☐ Category 3 earthquake near Tonga.

QUESTION 26**WRITE YOUR OWN ANSWER**

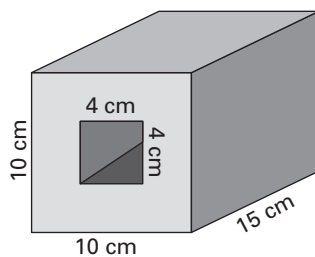
What is the size of angle b in the diagram?


 degrees
QUESTION 27**WRITE YOUR OWN ANSWER**

Tickets booked for a rock festival are charged according to the following rule $c = 75n + 6.50$ where c is the total cost, n is the number of tickets, \$75 is the ticket price and \$6.50 is the booking fee. How much would Mia, Rhea and Leah pay altogether if they buy tickets this way?

QUESTION 28**WRITE YOUR OWN ANSWER**

What is the volume of the solid below?


 cm^3
QUESTION 29**WRITE YOUR OWN ANSWER**

Below is part of a timetable for trains to the city.

| Trains to the city | | | | | | | |
|--------------------|------|------|------|------|------|------|------|
| Plymouth | 6.05 | 6.10 | 6.27 | 6.42 | 7.00 | | 7.16 |
| Block | | 6.12 | 6.29 | | 7.02 | | |
| Glamis | | 6.14 | 6.31 | | 7.04 | | |
| Irwin | 6.08 | 6.16 | 6.33 | | 7.06 | 7.08 | |
| Gardener | 6.10 | 6.18 | 6.35 | | 7.08 | 7.10 | |
| Hodge | 6.12 | 6.20 | 6.37 | | 7.10 | 7.12 | |
| Elder | 6.14 | 6.22 | 6.39 | | 7.12 | 7.14 | |
| Brougham | 6.16 | 6.24 | 6.41 | 6.51 | 7.14 | 7.16 | 7.25 |
| Welly | 6.19 | 6.27 | | 6.54 | 7.17 | 7.19 | 7.28 |
| City | 6.22 | 6.30 | 6.45 | 6.57 | 7.20 | 7.22 | 7.31 |

How long does it take on the express train to get from Plymouth to Welly?

 minutes

QUESTION 30**WRITE YOUR OWN ANSWER**

The brochure shows the cost of the phone company CallCheap.

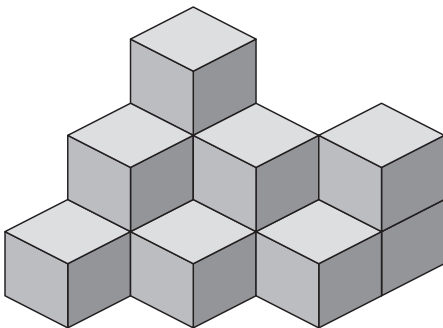


Tessa's friends all use this company except George. One day she sends 120 texts to her friends that use CallCheap and 20 to George. She makes 35 calls to her CallCheap friends and speaks to George for 5 minutes. She also sends George three photos. How much would she pay if she used CallCheap?

\$ 17.25

QUESTION 31

The following solid was made from cubes.



Assuming the cubes go down to the ground, the number of cubes required to make the solid is:

☐ 10

☒ 12

☐ 8

☐ 11

QUESTION 32

The ancient Greeks considered a number to be a **perfect number** if the sum of its factors, excluding itself, equals the number. Which of the following is a perfect number?

☐ 26

☐ 25

☐ 27

☒ 28