

# Test 4: 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 sets of numbers is arranged from largest to smallest?

- ☐ 1.023, 10.23, 102.3, 1032
- ☐ 1.023, 102.3, 1032, 10.23
- ☒ 1032, 102.3, 10.23, 1.023
- ☐ 1032, 10.32, 102.3, 1.02

SHADE ONE BOX



### QUESTION 2

John measured the length of a table as 1.20 m.  
What is this measurement in centimetres?

120 cm

WRITE YOUR OWN ANSWER



### QUESTION 3

Which of the following numbers is a prime number?

- ☐ 6      ☒ 7      ☐ 8      ☐ 9

SHADE ONE BOX



### QUESTION 4

A quadrilateral that has two pairs of parallel sides is best called

- ☐ a rectangle
- ☐ a rhombus
- ☐ a square
- ☒ a parallelogram

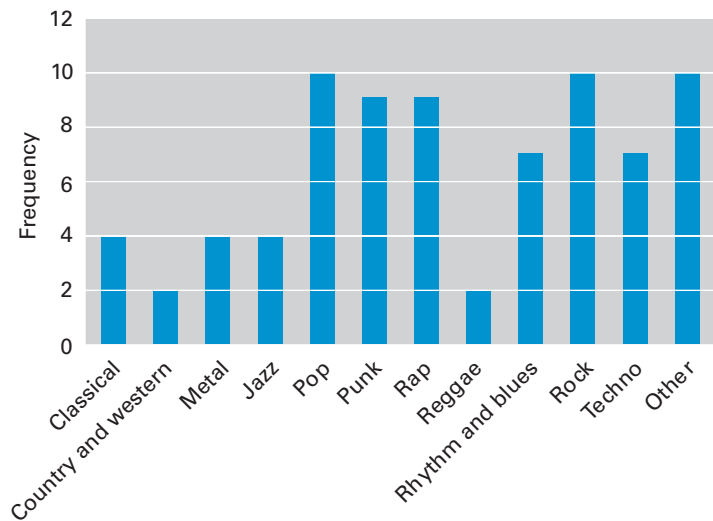
SHADE ONE BOX



### QUESTION 5

SHADE ONE BOX

In 2008, one of the questions asked in the Census-at-School survey was 'What are your favourite types of music?' The following data is from a random sample of 20 students.



Which of the following statements is true about the data?

- ☐ Fewer students said their favourite was classical than reggae.
- ☐ Fewer students said their favourite was pop than rock.
- ☒ Fewer students said their favourite was rhythm and blues than punk.
- ☐ Fewer students said their favourite was techno than metal.

### QUESTION 6



WRITE YOUR OWN ANSWER

Mandip bought a packet of 15 cards for \$26.25.  
What is the average cost of a card?

\$1.75

### QUESTION 7

SHADE ONE BOX

The ratio of Max's age to Charlotte's is 3:5. Max is six years old. How old is Charlotte?

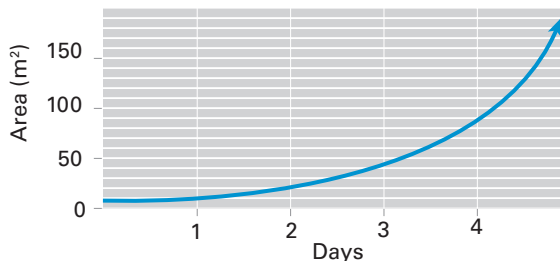
- ☐ 12 years
- ☒ 10 years
- ☐ 6 years
- ☐ 4 years

### QUESTION 8



WRITE YOUR OWN ANSWER

The area of a lake that is covered by algae doubles every day.  
The graph below shows the area covered each day.



Use the graph to find the number of days it takes to cover 100 m<sup>2</sup>. Give your answer to the nearest day.

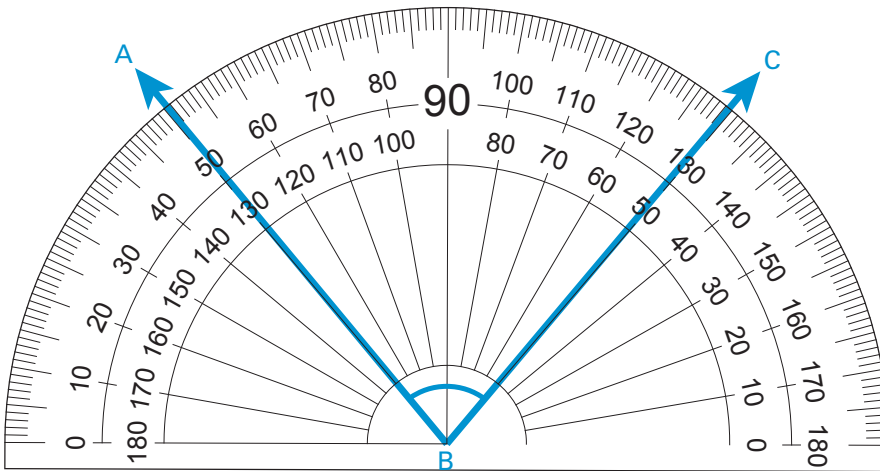
Approximately 4 days

### QUESTION 9

What is the size of angle ABC?



WRITE YOUR OWN ANSWER

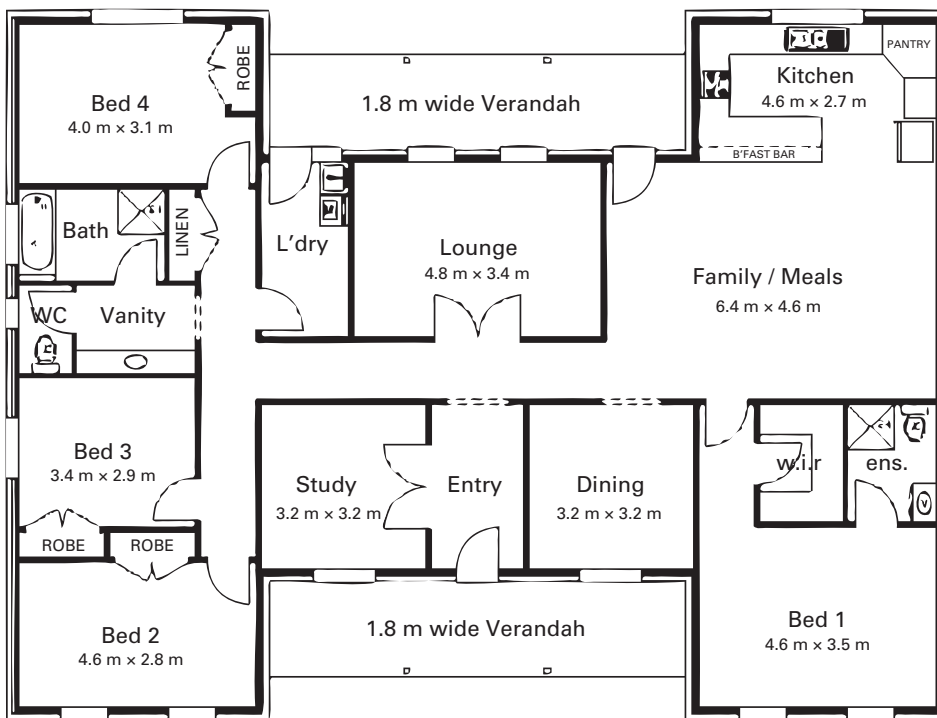


Approximately  degrees

### QUESTION 10

Jamil has decided that she will have 'Bed 4' as hers when she and her family move into their new house.

SHADE ONE BOX

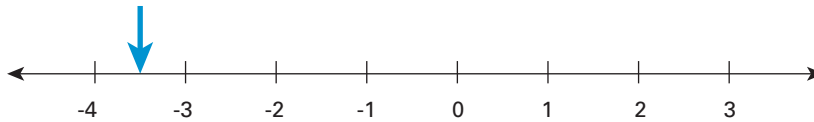


What is the floor area of Jamil's bedroom including the robe?

- ☐ 14.2 m<sup>2</sup>
☐ 7.1 m<sup>2</sup>
☒ 12.4 m<sup>2</sup>
☐ 9.86 m<sup>2</sup>

**QUESTION 11****WRITE YOUR OWN ANSWER**

The arrow points to a position on the number line.



What number is at this position?

**QUESTION 12****SHADE ONE BOX**

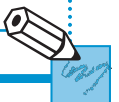
If 3 is added to two times a number  $x$ , the result is 11.

What is the number  $x$ ?

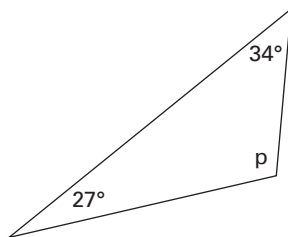
☒ 4

☐ 5

☐ 6

☐ 8
**QUESTION 13****SHADE ONE BOX**

What is the size of angle  $p$  in this triangle?


☐ 61°

☐ 71°

☐ 109°

☒ 119°
**QUESTION 14****WRITE YOUR OWN ANSWER**

Surface area can be calculated using the formula  $A = 4\pi r^2$ .  
What is the surface area of a sphere with a radius of 8 cm?  
Give your answer to the nearest whole number.

 cm<sup>2</sup>
**QUESTION 15****SHADE ONE BOX**

Bronwyn and Franco want to catch a train from Beijing to Shanghai.  
Which of the following trains takes the shortest time?

			Depart	Arrive
<b>D313</b>	Beijing	Shanghai	21:15	07:22
<b>D307</b>	Beijing	Shanghai	21:30	07:42
<b>D301</b>	Beijing	Shanghai	21:35	07:45
<b>D305</b>	Beijing	Shanghai	21:40	07:52

☒ D313

☐ D307

☐ D301

☐ D305

**QUESTION 16**SHADE ONE BOX 

Megastore is having a sale. Everything is 15 per cent off the marked price. If Phoebe pays cash, how much will she pay for a CD marked at \$29.95?

- ☐ \$34.45  
☐ \$28.45  
☒ \$25.45  
☐ \$29.80

**QUESTION 17**SHADE ONE BOX 

Which one of these is equal to  $2^3$ ?

- ☐  $2 \times 3$       ☒  $2 \times 2 \times 2$       ☐  $3 \times 3$       ☐  $2 + 2 + 2$

**QUESTION 18**SHADE ONE BOX 

The table below shows the population in the five most populous cities in the United States of America in 2008.

City	Population
New York	8363 710
Los Angeles	3833 995
Chicago	2853 114
Houston	2242 193
Phoenix	1 567 924

How many more people live in Los Angeles than Houston and Phoenix combined?

- ☒ 23878      ☐ 23882      ☐ 24878      ☐ 24882

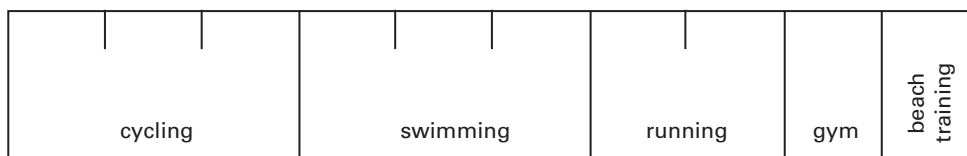
**QUESTION 19**WRITE YOUR OWN ANSWER 

Mannix sold teddy bears to raise money for a children's charity. Each teddy bear was sold for \$5. The charity received 60c for each teddy bear sold. If Mannix raised \$90 for the charity, how many teddy bears did he sell?

150 teddy bears

**QUESTION 20**SHADE ONE BOX 

Jason is an athlete in training for a triathlon. He divides his weekly training sessions up as shown in the bar graph below.



If Jason spends 18 hours each week running, how long does he spend cycling?

- ☐ 12 hours      ☐ 15 hours      ☒ 27 hours      ☐ 30 hours

### QUESTION 21

SHADE ONE BOX

A good darts player attempts to hit the bullseye. From 20 attempts she manages to hit the bullseye a total of 7 times. If she makes another 55 attempts, how many bullseyes could she expect?

☒ 19

☐ 20

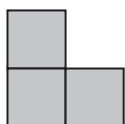
☐ 42

☐ 12

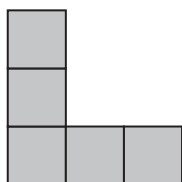
### QUESTION 22

SHADE ONE BOX

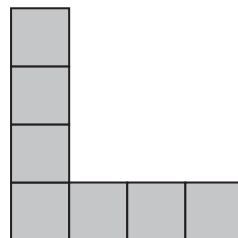
Blocks are used to make these L-shaped patterns.



Arm length 1



Arm length 2



Arm length 3

What is the rule connecting the number of tiles  $t$  and the arm length  $a$ ?

☐  $a = t + 1$

☐  $t = a + 1$

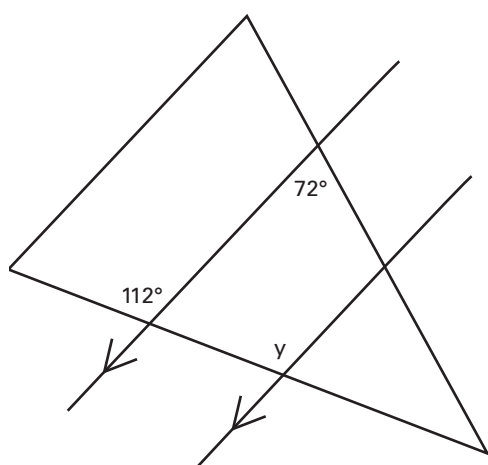
☐  $a = 2t + 1$

☒  $t = 2a + 1$

### QUESTION 23

SHADE ONE BOX

What is the value of angle  $y$  in this diagram?



☐  $72^\circ$

☐  $68^\circ$

☐  $108^\circ$

☒  $112^\circ$

### QUESTION 24

SHADE ONE BOX

Two normal dice are tossed. What is the probability of getting a total of 7?

☐  $\frac{5}{18}$

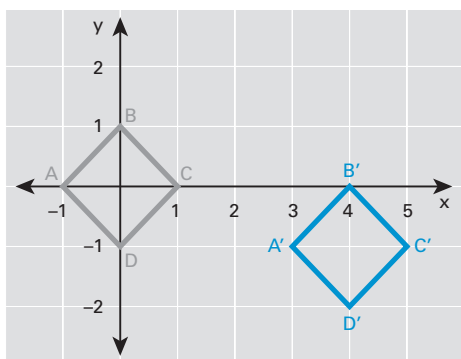
☐  $\frac{1}{12}$

☐  $\frac{5}{36}$

☒  $\frac{1}{6}$

### QUESTION 25

SHADE ONE BOX

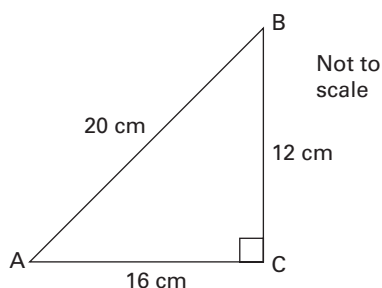


The blue shape in the diagram has been translated to the grey shape in the diagram by moving

- ☐ 4 horizontally and 2 vertically
- ☐ 1 horizontally and 4 vertically
- ☐ 4 horizontally and 2 vertically
- ☒ 4 horizontally and 1 vertically

### QUESTION 26

SHADE ONE BOX



What is the area of this triangle?

- ☒ 96 cm<sup>2</sup>      ☐ 120 cm<sup>2</sup>      ☐ 160 cm<sup>2</sup>      ☐ 72 cm<sup>2</sup>

### QUESTION 27



WRITE YOUR OWN ANSWER

Two families booked plane tickets for a holiday in North Queensland. The first group included 1 adult and 4 children and paid \$950. The second group included 2 adults and 3 children and paid \$975. The prices were the same for both groups. How much did each child's ticket cost?

\$185

### QUESTION 28



WRITE YOUR OWN ANSWER

Write 2010 as a product of its prime factors.

$67 \times 5 \times 3 \times 2$

### QUESTION 29



WRITE YOUR OWN ANSWER

A kitchen floor is to be tiled. The area to be tiled is 3.5 m wide by 4 m long. The tiles to be used are 20 cm  $\times$  35 cm. Each tile costs \$14.50. What is the total cost of the tiles?

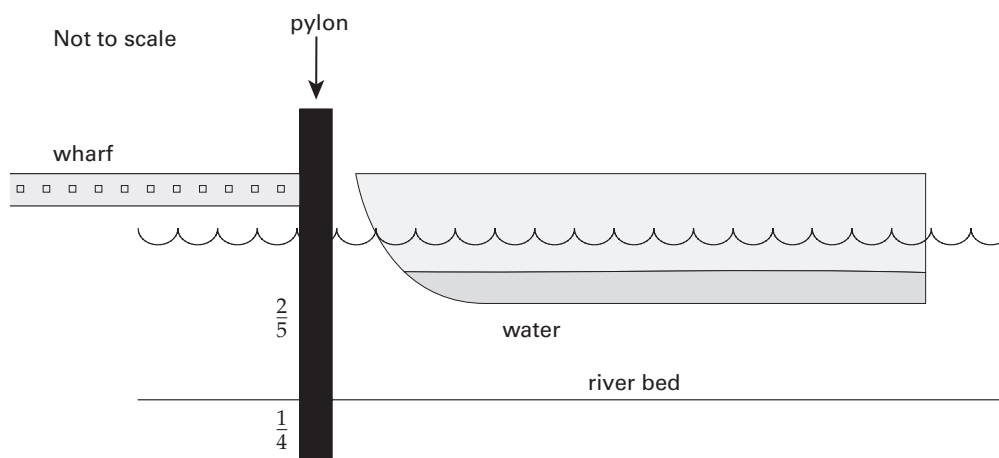
\$2900

### QUESTION 30



WRITE YOUR OWN ANSWER

When a boat docks at a wharf, a rope is used to tie it to a pylon. One-quarter of the pylon is sunk into the river bed and  $\frac{2}{5}$  of the pylon is under water. What fraction of the pylon is above the water?



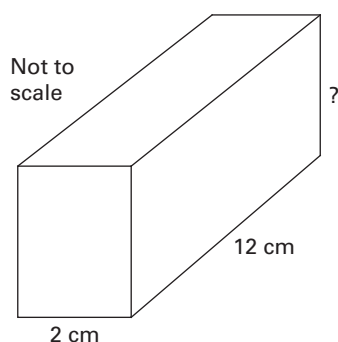
$\frac{7}{20}$

### QUESTION 31

SHADE ONE BOX



The volume of this rectangular prism is  $192 \text{ cm}^3$ .



What is the length of this rectangular prism?

☐ 6 cm

☒ 8 cm

☐ 12 cm

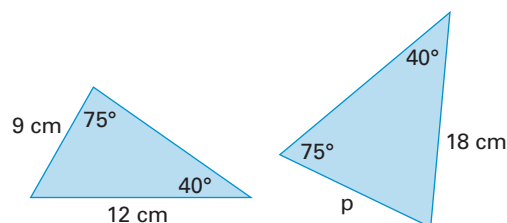
☐ 14 cm

### QUESTION 32



WRITE YOUR OWN ANSWER

The two triangles in the diagram below are similar.



What is the value of  $p$ ? 13.5 cm