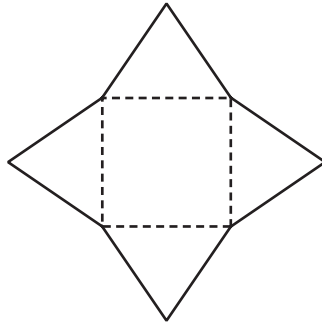


1



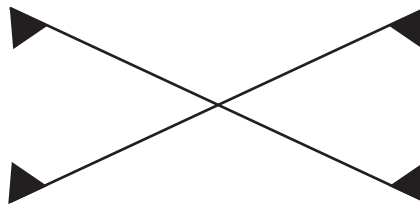
Write down the name of the solid that can be made from the net shown in the diagram.

Answer [1]

2 Write down all the square numbers which are factors of 100.

Answer [2]

3



For the diagram, write down

(a) the number of lines of symmetry,

Answer(a) [1]

(b) the order of rotational symmetry.

Answer(b) [1]

4 In a desert the temperature at noon was 38°C .
At midnight the temperature was -3°C .

(a) Find the change in temperature between noon and midnight.

Answer(a) $^{\circ}\text{C}$ [1]

(b) At 02 00 the temperature was 4°C below the midnight temperature.

Write down the temperature at 02 00.

Answer(b) $^{\circ}\text{C}$ [1]

- 5 Multiply out the brackets.

$$x(2x + y)$$

Answer [2]

- 6 Solve the equation.

$$\frac{2x + 1}{3} = 4$$

Answer $x =$ [2]

- 7 Work out $\sqrt[3]{7.2^3 - 100}$.
Give your answer correct to 3 decimal places.

Answer [2]

- 8 Chris and Max share \$45 in the ratio Chris:Max = 7 : 2 .

Calculate how much Chris receives.

Answer \$ [2]

- 9 When Valentina was 10 years old, her mass was 32 kg.
Two years later her mass had increased by 45%.

Calculate Valentina's mass when she was 12 years old.

Answer kg [2]

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- 10 Change 18.75% into a fraction.

Write your answer in its lowest terms.

Answer [2]

- 11 Factorise completely.

$$3ac - 6ad$$

Answer [2]

- 12 Simplify $\left(1\frac{1}{2}\right)^{-3}$.

Give your answer as a fraction.

Answer [2]

- 13 Solve the simultaneous equations.

$$3x + y = 5$$

$$5x + y = 9$$

Answer $x =$
 $y =$ [2]

- 14

17

27

$\sqrt{17}$

0.294

$\frac{5}{17}$

From the list of numbers, write down

- (a) a prime number,

Answer(a) [1]

- (b) an irrational number,

Answer(b) [1]

- (c) the smallest number.

Answer(c) [1]

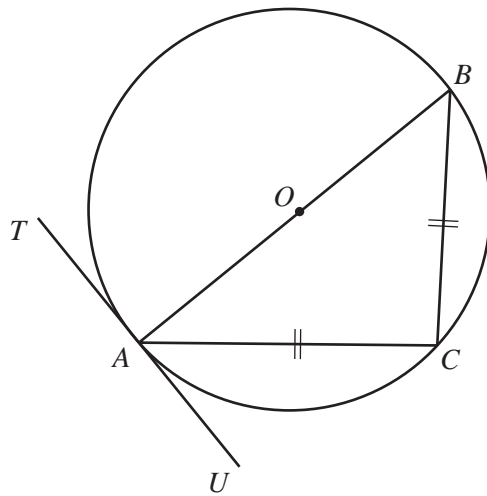
15 Amiria invests \$200 for 2 years at 3% per year **compound** interest.

Calculate the total amount Amiria has at the end of the two years.

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Answer \$ [3]

16



NOT TO
SCALE

In the diagram, TAU is a tangent to the circle at A .
 AB is a diameter of the circle and $AC = BC$.

Find

(a) angle BCA ,

Answer(a) Angle $BCA =$ [1]

(b) angle ABC ,

Answer(b) Angle $ABC =$ [1]

(c) angle CAU .

Answer(c) Angle $CAU =$ [1]

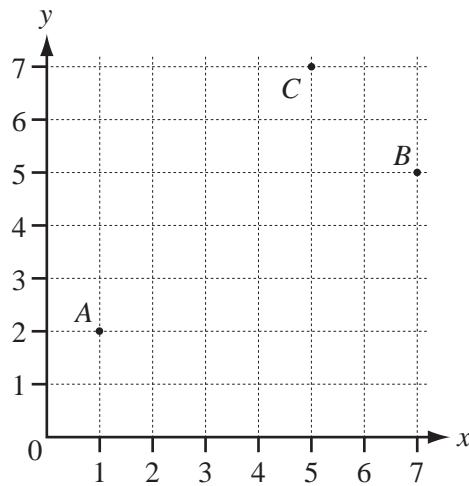
17 Insert brackets to make each statement correct.

(a) $7 + 2 \times 9 = 81$ [1]

(b) $36 \div 6 \div 2 = 12$ [1]

(c) $5 \times 3 + 6 \times 2 = 90$ [1]

18



The diagram shows three points, $A(1, 2)$, $B(7, 5)$ and $C(5, 7)$.

(a) Write as column vectors

(i) \vec{AC} ,

Answer(a)(i) $\vec{AC} = \begin{pmatrix} \\ \end{pmatrix}$ [1]

(ii) \vec{CB} .

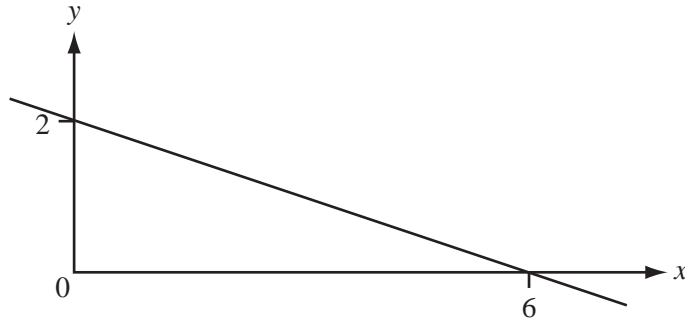
Answer(a)(ii) $\vec{CB} = \begin{pmatrix} \\ \end{pmatrix}$ [1]

(b) Use two of the symbols $+$, $-$, $=$ in the spaces to make a correct statement.

\vec{AC} \vec{CB} \vec{AB} [1]

For
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19



The diagram shows a straight line passing through the points (0, 2) and (6, 0).

Find the equation of this line in the form $y = mx + c$.

Answer $y =$ [3]

20



- (a) The diagram shows 5 discs.
One disc is chosen at random.

- (i) Which number is most likely to be chosen?

Answer(a)(i) [1]

- (ii) What is the probability that the number on the disc is even?

Answer(a)(ii) [1]

- (iii) What is the probability that the number on the disc is even and a factor of 20?

Answer(a)(iii) [1]

- (b) A disc is chosen at random from the discs with even numbers.

What is the probability that the number on the disc is a factor of 20?

Answer(b) [1]

Questions 21 and 22 are printed on the next page

21

0 0 0 1 2 2 4 4 5 9

The list shows the number of days absent in a school term for each of 10 students.

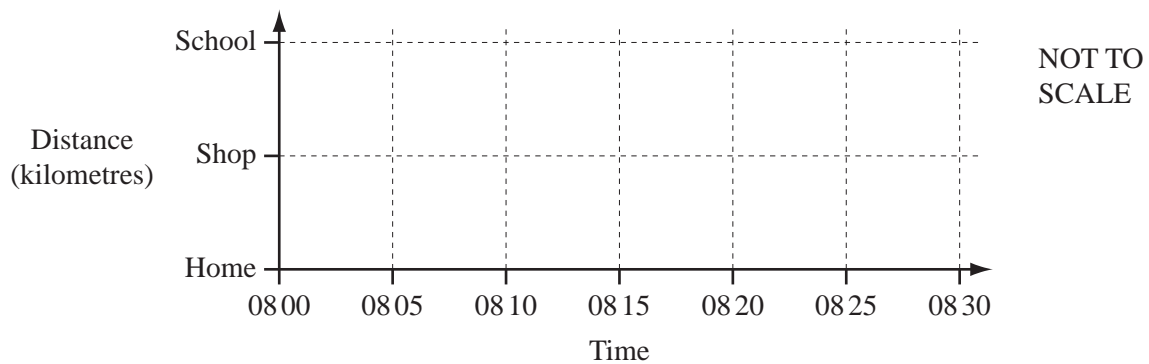
Find the mode, the median and the mean for the number of days absent.

Answer Mode =

Median =

Mean = [4]

22



Rob walks to school each morning.
One day, he leaves home at 08 00.
He stops at a shop at 08 10 and stays there for 5 minutes.
He then continues to school and arrives at 08 30.

(a) Draw the travel graph for Rob's journey from home to school. [3]

(b) Rob's average speed for the whole journey from home to school is 3.3 km/h.

Calculate the distance from Rob's home to school.

Answer(b) km [2]

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