Section 2: Calculator Section

You will need a pencil/eraser for this section. You **are permitted** to use a calculator. You are permitted to use any math manipulatives that your teacher has used with you this year.

Questions 11-40 (multiple choice): These are worth 1 mark each. Even though you have to choose an answer, you may have to work things out on scrap paper. You have been given a pink and white bubble sheet. You must be very careful of the way you handle this sheet. It will be scored by a computer and must not be **bent**, **torn**, or have **any** stray marks on it. You are to shade **(using a pencil only)** the appropriate bubble (having the same number as the question) on the bubble sheet. Do not shade more than one bubble or the question is scored as incorrect. If you need to change an answer, erase carefully with a good quality eraser

Questions 5-15 (constructed response): Answers are to be done in the spaces provided. Students are reminded to show **all** steps/calculations since credit may be given for incomplete or partially correct solutions. **Numerical answers without workings/explanation will not merit full credit.**

This is not a timed-test. You are allowed enough time to complete all items.
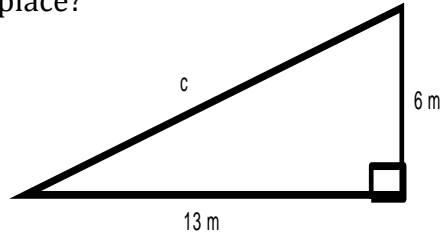
Grade 8 Mathematics

Formulae

Surface Area	Cylinder	$SA = 2\pi r^2 + 2\pi rh$
Pi	π	$Use\, \pi = 3.14$

Section 2: Multiple Choice [30 Marks]

11. Which set of numbers is a Pythagorean triple?

   A.   6, 24, 25

   B.   8, 15, 17

   C.   10, 20, 30

   D.   15, 15, 15

12. What is c in metres to one decimal place?

   A.   14.3

   B.   14.4

   C.   19.0

   D.   20.5

13. Which number sentence best describes this scenario?

   Jodie and four friends together owe 20 dollars to Jodie's brother. They agree
   to share the debt equally. What is each person's share of the debt?

   A. $\dfrac{(+20)}{(+4)} = (+5)$

   B. $\dfrac{(-20)}{(+4)} = (-5)$

   C. $\dfrac{(+20)}{(+5)} = (+4)$

   D. $\dfrac{(-20)}{(+5)} = (-4)$

14. At 7:00 am, the temperature in Wabush was $-10°C$. The temperature rises $+3°C$ per hour over the next few hours. What is the temperature in degrees Celsius in Wabush at 11:00 am?
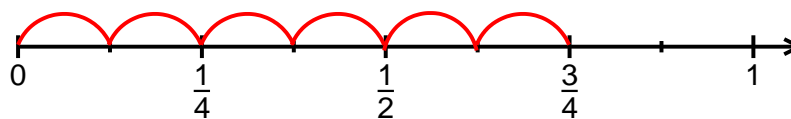
   A.   -2

   B.   -1

   C.   +2

   D.   +12

15. This table shows the nightly low temperatures ($°C$) in Makkovik for a week in May.

M	T	W	Th	F	Sa	Su
?	-4	-13	-5	+6	+6	-5

If the average low temperature in Makkovik that week was $-2°C$, what was the low temperature in degrees Celsius on Monday night?

   A.   -14

   B.   -2

   C.   +1

   D.   +2

16. Which expression does this number line diagram represent?
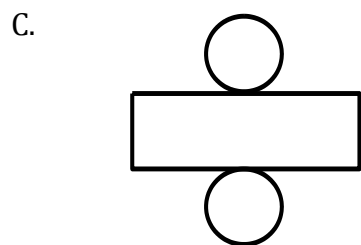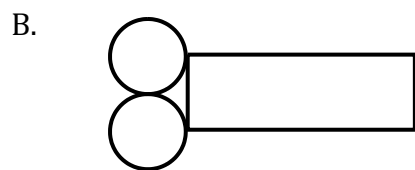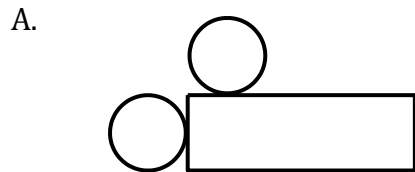

   A. $6 \times \dfrac{1}{4} = \dfrac{3}{2}$

   B. $8 \times \dfrac{1}{6} = \dfrac{4}{3}$

   C. $\dfrac{3}{4} \div 8 = \dfrac{3}{32}$
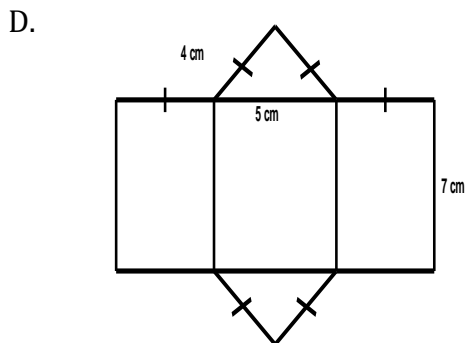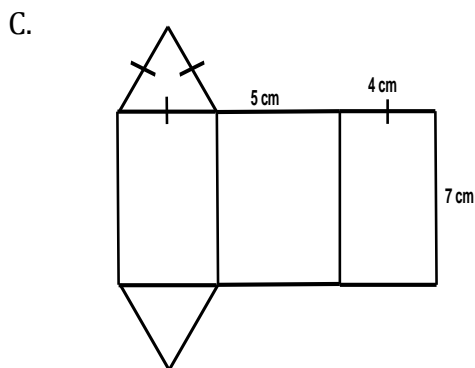
   D. $\dfrac{3}{4} \div 6 = \dfrac{1}{8}$

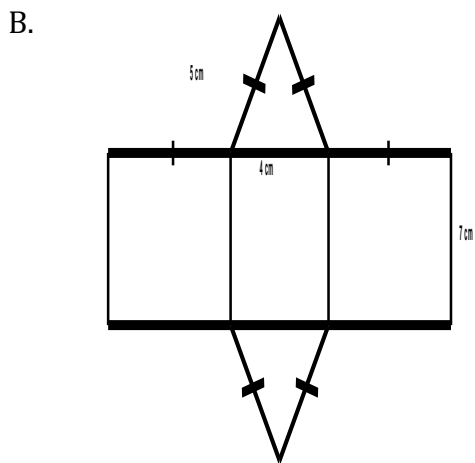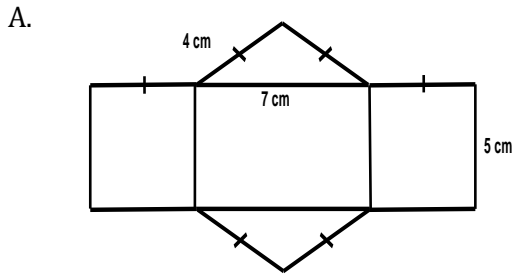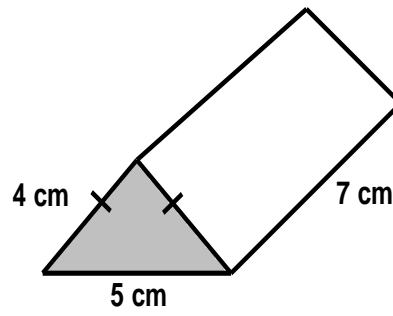17. Gregg is awake for $\frac{2}{3}$ of the day. He spends $\frac{5}{8}$ of that time at home. How many hours of the day is Gregg awake at home?
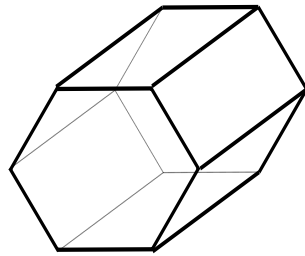
    A.   10

    B.   12

    C.   15

    D.   16

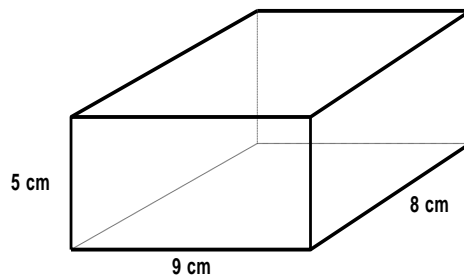18. Which is the correct net for a cylinder?

    A.

    B.

    C.

    D.
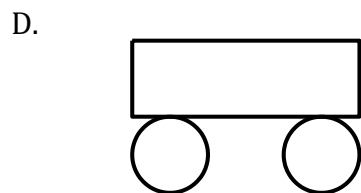
19.   Which net is for this triangular prism?

4 cm   7 cm

5 cm

A.

4 cm

7 cm

5 cm

B.

5 cm

4 cm

7 cm

C.

5 cm   4 cm

7 cm

D.

4 cm

5 cm

7 cm

20. How many faces does this right prism have?

    A.   2
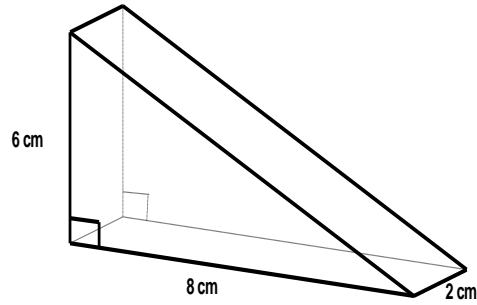
    B.   4

    C.   6

    D.   8

21. The edge of a cube is 8 cm in length. What is the surface area of the cube in cm^2?

    A.   48

    B.   64

    C.   384

    D.   512

22. What is the surface area of this rectangular prism in cm^2?
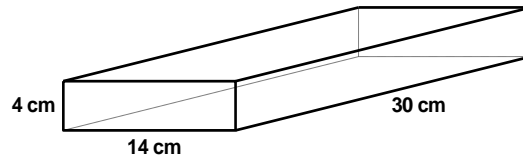

5 cm   8 cm

9 cm

    A.   157

    B.   314

    C.   360

    D.   628

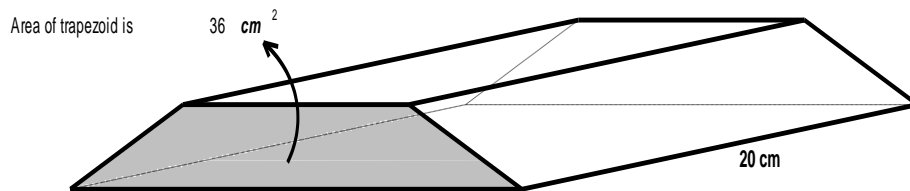23. What is the surface area of this triangular prism in cm²?

6 cm

8 cm

2 cm

A. 48

B. 96

C. 120

D. 144

24. What is the volume of this rectangular prism in cm³?

4 cm

14 cm

30 cm

A. 840

B. 1192

C. 1680

D. 3360

25. What is the volume of this prism in cm³?

Area of trapezoid is   36 cm^2

20 cm

A. 360

B. 720

C. 1296

D. 1440

26. What percent of the larger grid is shaded?
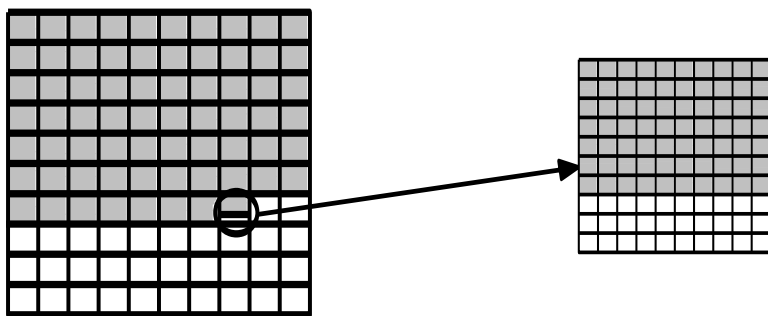
    A.   67.00

    B.   67.67

    C.   67.70

    D.   70.00

27. Which is equivalent to $\dfrac{8}{1000}$?

    A.   0.8%

    B.   1.8 %

    C.   8 %

    D.   80 %

28. There are 12 people from Des's street in the local hockey league. They make up 7.5% of the league. How many people are in the league?

    A.   90

    B.   120

    C.   140

    D.   160

29. A paint store mixes yellow and blue paint in the ratio 2:3 to make green paint. If they used 12 litres of yellow paint, how many litres of blue paint were used?

    A.   8

    B.   18

    C.   24

    D.   60

30. Nicole earned $116 in 8 hrs. At this rate, how much will she earn in 14 hours?

    A. $145

    B. $174

    C. $203

    D. $232

31. Solve: $\dfrac{m}{7} - 4 = -7$

    A.   m=-77

    B.   m=-21

    C.   m=21

    D.   m=77

32. Solve: $-16 = 3a - 11$

    A. $a = -9$

    B. $a = -\dfrac{5}{3}$

    C. $a = \dfrac{5}{3}$

    D. $a = 9$

33. Which equation can be used to solve this problem?

"Zoe works at a marina where boat servicing costs $75.50 plus $6.50 for each litre of oil. Zoe serviced Mr. Smith's boat and charged him $147.00. How many litres of oil did she use for his boat?"

A. $75.50 = 6.50x + 147$

B. $75.50 = 147x + 6.50$

C. $147 = 75.50x + 6.50$

D. $147 = 6.50x + 75.50$

34. What type of graph would you use to display DVD sales over a number of years?

A. bar

B. circle

C. line

D. pictograph

35. A regular die is rolled and a coin is tossed. What is the probability of rolling an even number and getting tails?

A. $\dfrac{1}{12}$

B. $\dfrac{1}{6}$

C. $\dfrac{1}{4}$

D. $\dfrac{1}{2}$

36. Jodie puts these lettered cards in a paper bag.

$$B \quad A \quad N \quad A \quad M \quad A \quad R \quad A \quad M \quad A$$

She selects a card without looking, replaces it, and selects another card without looking. What is the probability that she will choose A and then M?

A. $\dfrac{7}{100}$

B. $\dfrac{1}{10}$

C. $\dfrac{1}{5}$

D. $\dfrac{7}{10}$

37. This spinner is spun three times.

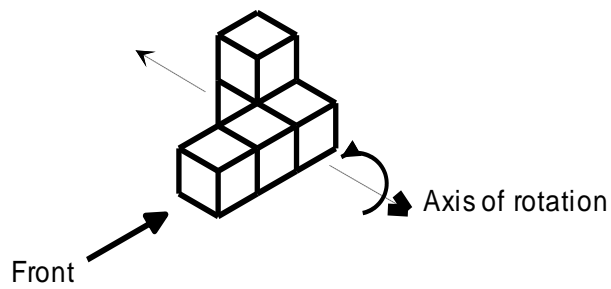What is the probability of spinning black, then white, and then white again?
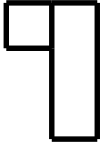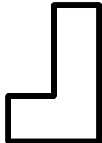
A. $\dfrac{1}{54}$

B. $\dfrac{1}{12}$

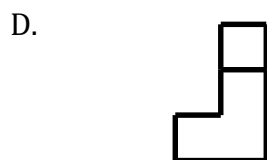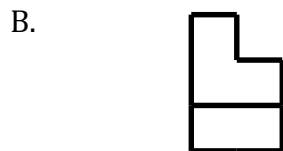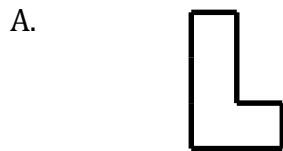C. $\dfrac{2}{3}$

D. $\dfrac{5}{6}$
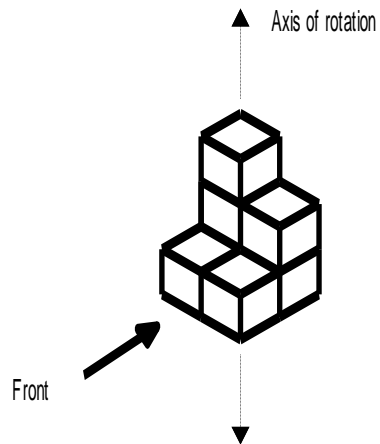
38.   Which is used to produce this tessellation?

A.   enlargement
B.   reflection
C.   rotation
D.   translation

39.   Which is the **front view** of the object after it has been rotated 90º towards you about the axis?

Front

Axis of rotation

A.

B.

C.

D.

40. Which is the **left view** of the object after it has been rotated 180º clockwise about the axis?

Axis of rotation
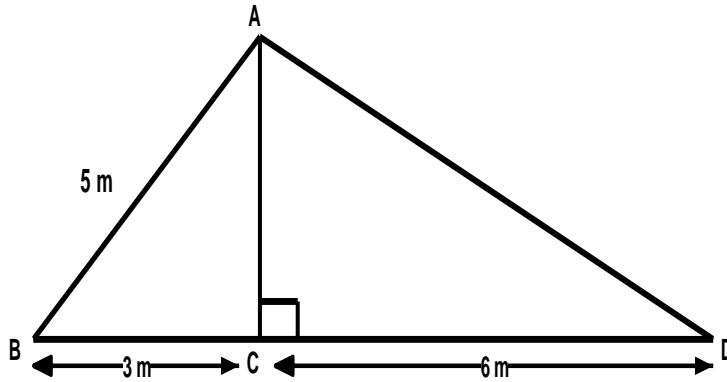
Front

A.

B.

C.

D.

Write your answers in the spaces provided. Show all workings to achieve full marks.

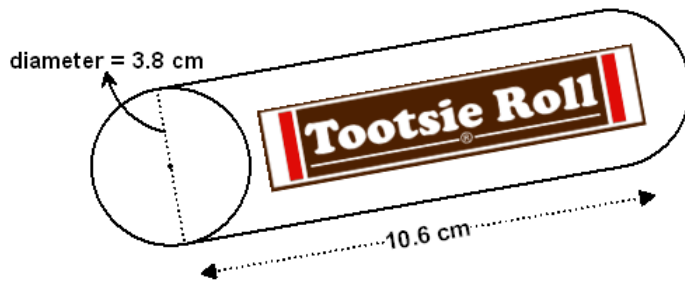5.   Determine the length of AD to one decimal place.   [3 Marks]

6.   Calculate: $\dfrac{7}{10}+\dfrac{3}{5}\times\left(\dfrac{2}{3}\div\dfrac{1}{2}\right)$ [3 Marks]

7. These containers are made from the same material. How much chocolate can each container hold? Show your work. [3 Marks]

diameter = 3.8 cm

Tootsie Roll

10.6 cm

3.4 cm

TOBLERONE

11.8 cm

5.8 cm

8. These cans hold the same amount of tuna. Which can uses more metal? Show your work. [3 Marks]

10.0 cm

StarKist
Solid White IN WATER
ALBACORE TUNA

4.5 cm

7.5 cm

PRINCES

8.0 cm

Tuna Chunks
In Sunflower Oil

9. Janine is purchasing a set of golf clubs that are priced at $425.00. The salesman tells her that the set is on sale for 13% off. The tax rate is also 13%. Janine thinks she will pay exactly $425.00 for the set of clubs. Is she correct? Justify your answer.

[3 Marks]

10. Fred found his favourite shampoo in two stores. The sizes and pricing are shown below. Which bottle is the better value? Show your work.   [3 Marks]
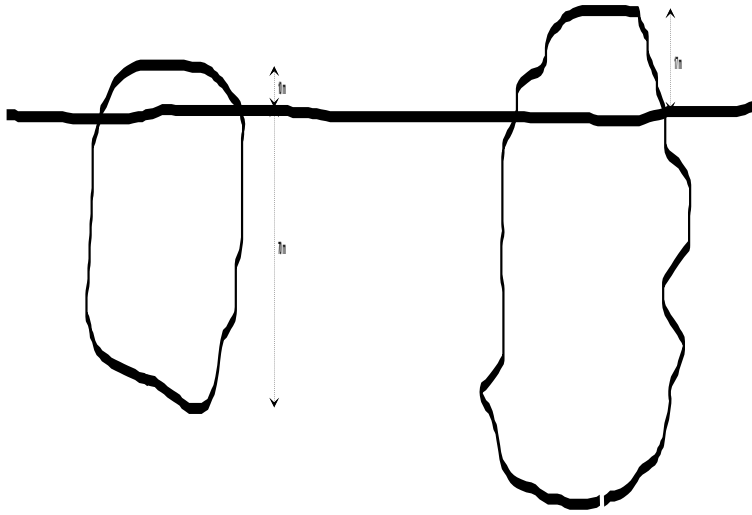

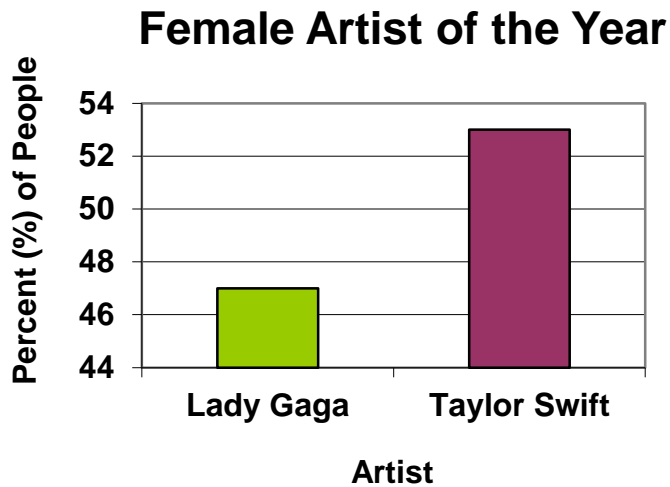750 ml for $3.00   1 000 ml for $4.20

11. An iceberg 80 m in length is 10 m above the water's surface and 70 m below the water's surface. What is the total length of a similar iceberg that rises 17 m above the water's surface? Show your work. [3 Marks]

12. The online voting results for a music award were displayed to the television viewing audience using this graph:

Is this a fair way of presenting the data? Briefly explain your answer. [2 Marks]

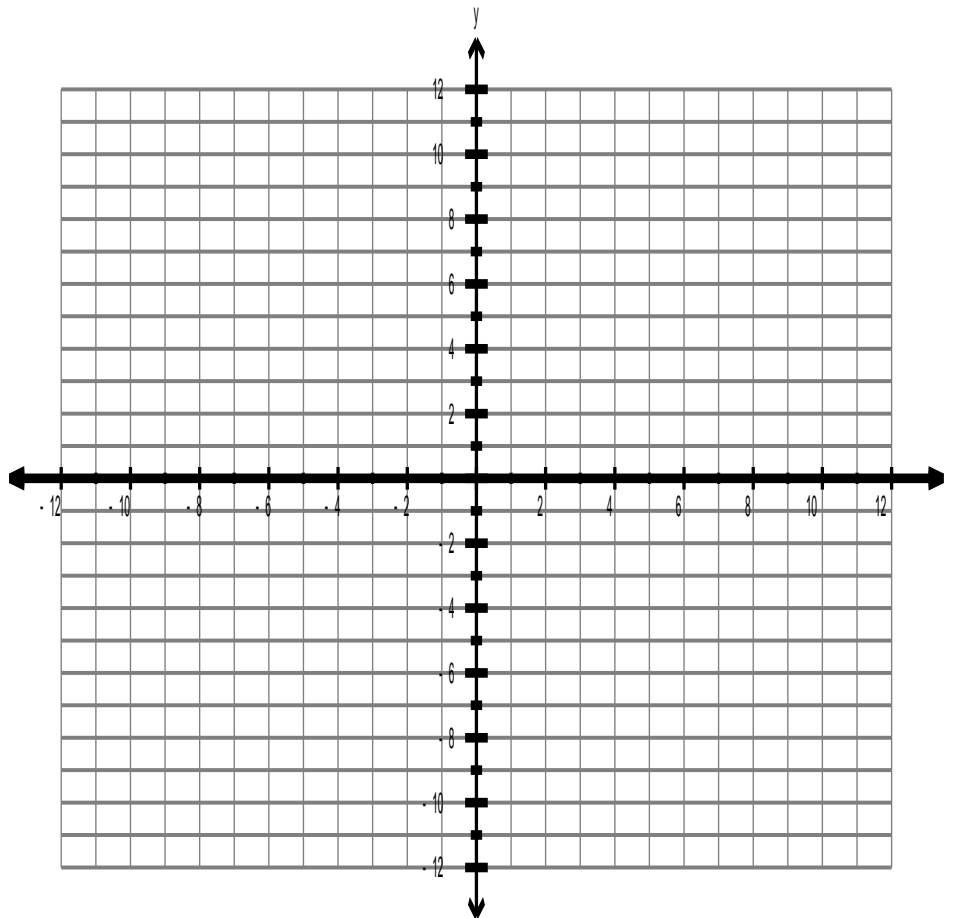13. The equation of a linear relation is: $y = -2x - 3$

A. Complete this table of values for the relation. [1Mark]

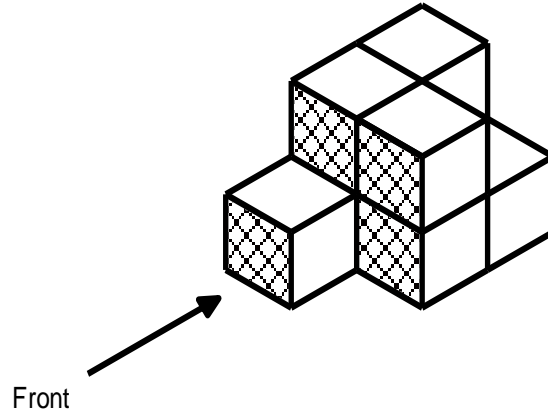| x	y
-7	
-2	
1	
4	

B. Graph the data from the table in part A on the grid below. [1 Mark]

14. Sketch and label the front, top, left side and right side views of the object.

[2 Marks]

Front

15. Can you combine dodecagons with other regular polygons to create tessellations? Use the table below to help explain your answer. [3 marks]

Regular Polygon	Interior angle measure
Triangle	60°
Square	90°
Pentagon	108°
Hexagon	120°
Octagon	135°
Decagon	144°
Dodecagon	150°