



NAME: _____

Grade 8 Mathematics

Final Examination

June 2010

Section B

Calculator Permitted	Selected Response	30 Marks
	Constructed Response	30 marks

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 computer scorable 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. Erase carefully with a good quality eraser if you need to change an answer.

Questions 5 -16 (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.**

ANSWER SHEET
Grade 8 Mathematics
Western School District
June 2010

Name: _____

Section B: Calculator

11.	
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Teacher use only			
	Selected Response:	/30 Marks	
	Constructed Response:	/30 Marks	
	Total:	/60 Marks	
Section A	Section B	Exam Total	Percentage
/20	/60	/80	/100

Grade 8 Mathematics

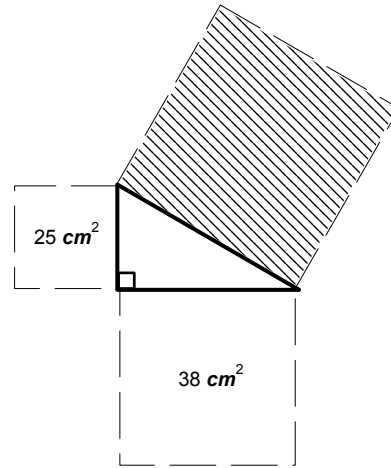
Formulae

Area	Square	$A = s^2$
	Rectangle	$A = l \times w$ or $A = b \times h$
	Triangle	$A = \frac{1}{2}bh$ or $A = \frac{bh}{2}$
	Circle	$A = \pi r^2$
Surface Area	Cylinder	$SA = 2\pi r^2 + 2\pi rh$
Volume	$V = \text{Area of Base} \times \text{Height}$	
Pi	π	Use $\pi = 3.14$

Section B: Selected Response [30 Marks]

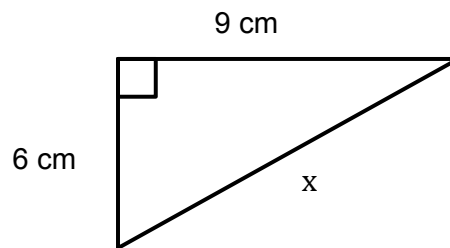
11. The areas of the squares on the two shorter sides of a triangle are given. What is the area of the shaded square, in cm^2 ?

- A. $\sqrt{13}$
- B. $\sqrt{63}$
- C. 13
- D. 63



12. What is the value of x , in cm ?

- A. 6.7
- B. 10.8
- C. 15.0
- D. 58.5



13. Calculate: $(-84) \div (-12)$

- A. -7
- B. -0.14
- C. 0.14
- D. $+7$

14. Calculate: $\frac{(+12) \times (-4)}{(-10) - (-2)}$

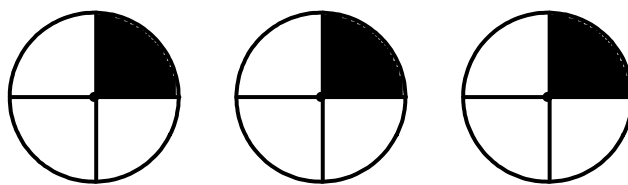
- A. -6
- B. -4
- C. $+4$
- D. $+6$

15. At supper time the temperature is 6°C . If the temperature drops 2°C every hour, what is the temperature, in $^\circ\text{C}$, 5 hours later?

- A. -10
- B. -4
- C. $+4$
- D. $+16$

16. Which multiplication statement does the diagram represent?

- A. 1×3
- B. 3×1
- C. $3 \times \frac{1}{4}$
- D. $4 \times \frac{1}{3}$

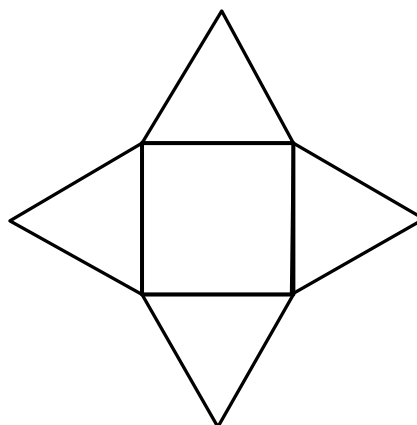


17. There is $10\frac{1}{2}$ kg of dog food. If each dog eats $\frac{3}{4}$ kg of dog food, how many dogs can be fed?

- A. 7
- B. 9
- C. 11
- D. 14

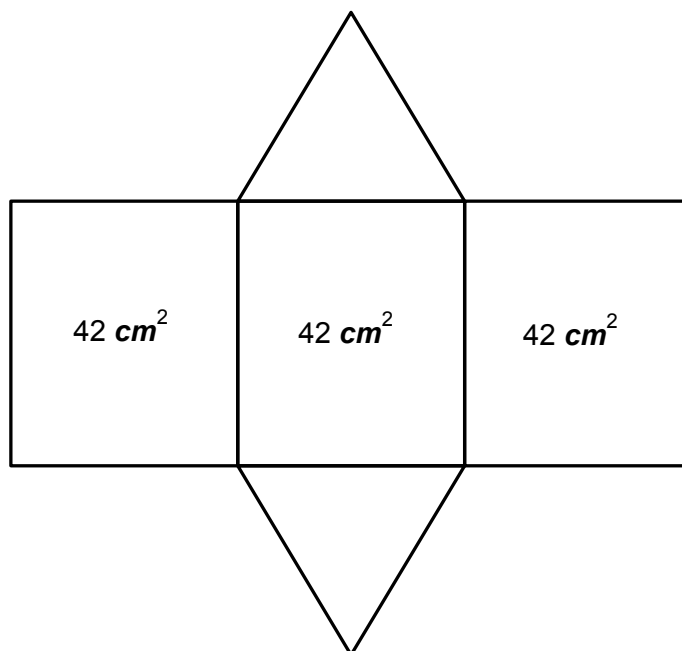
18. Which object is formed by this net?

- A. Rectangular Prism
- B. Square Pyramid
- C. Triangular Prism
- D. Triangular Pyramid



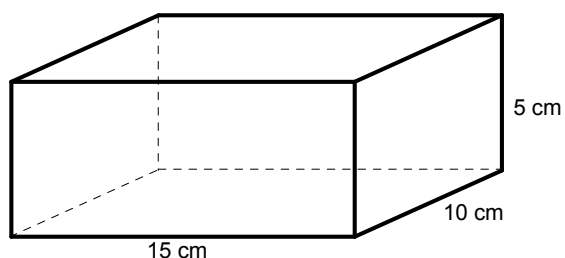
19. If the total surface area of the net shown is 156 cm^2 , what is the area of each triangle, in cm^2 ?

- A. 15
- B. 30
- C. 57
- D. 126



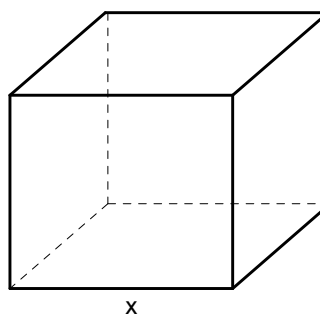
20. What is the surface area of the rectangular prism shown, in cm^2 ?

- A. 125
- B. 275
- C. 550
- D. 750



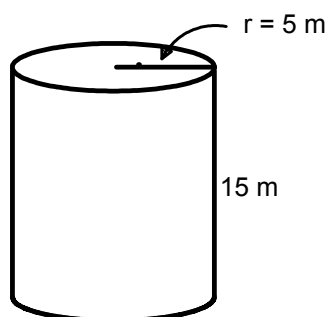
21. The total surface area of a cube is 150 cm^2 . What is the length of each side, x , in cm ?

- A. 5
- B. 25
- C. 50
- D. 625



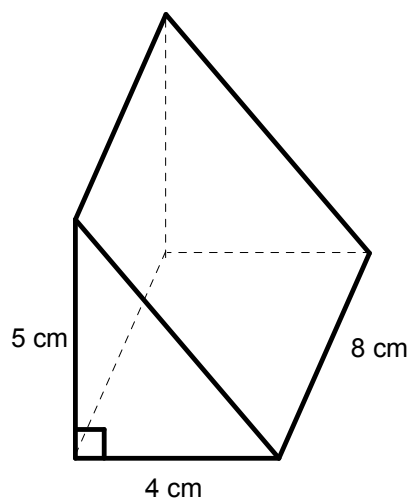
22. What is the volume of the cylinder shown, to the nearest cubic metre?

- A. 471
- B. 942
- C. 1178
- D. 4710



23. What is the volume of the triangular prism shown, in cm^3 ?

- A. 17
- B. 28
- C. 80
- D. 160



24. Which is equivalent to 0.17%?

- A. 0.0017
- B. 0.017
- C. 0.17
- D. 1.7

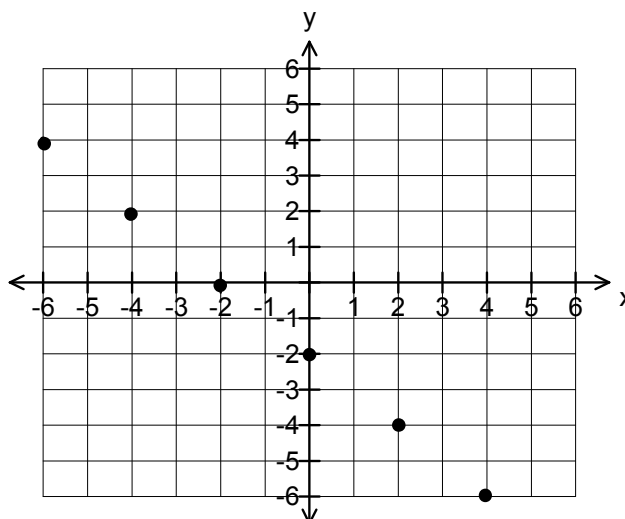
25. A comic book sells for \$3.25 on the internet. This is 260% of the original price. What was the original price?
- A. \$0.85
 - B. \$1.25
 - C. \$8.45
 - D. \$12.45
26. A truck driver travels 540 km in 6 hours. How many kilometres will he travel in 1 hour?
- A. 90
 - B. 534
 - C. 546
 - D. 4860
27. The Golf Store had a sale offering 20% off everything. The sale price of a golf club is \$240.00. What was the original cost of the club?
- A. \$ 48.00
 - B. \$ 288.00
 - C. \$ 300.00
 - D. \$1200.00
28. Eggs come in cartons of 12. Each carton of eggs has a mass of 744 g. What is the mass, in grams, of 50 eggs?
- A. 62
 - B. 179
 - C. 3100
 - D. 446 400
29. Which ratio is equivalent to 5:8?
- A. 6:9
 - B. 8:5
 - C. 10:16
 - D. 16:10

30. The ratio of adults to children at a concert is 5:3. If the total number of people at the concert is 240, how many adults are at the concert?
- A. 90
 - B. 144
 - C. 150
 - D. 400

31. Which equation shows the correct usage of the distributive property for $3(x + 2) = 9$?
- A. $3x + 2 = 9$
 - B. $3x + 2 = 27$
 - C. $3x + 6 = 9$
 - D. $3x + 6 = 27$

32. The graph of a linear relation is shown. Which ordered pair is a point on the graph?

- A. $(-2, -4)$
- B. $(-2, 4)$
- C. $(2, -4)$
- D. $(2, 4)$



33. Solve for x : $\frac{x}{3} + 2 = -4$
- A. -18
 - B. -14
 - C. -6
 - D. -2

34. Jacob is renting a hot air balloon. The rental company charges a fee of \$15.00 plus \$5.00 per person. If he has \$65.00, how many people can go on the ride?
- A. 3
 - B. 4
 - C. 10
 - D. 13

35. A bag contains 4 red, 3 green and 2 blue marbles. Kim selects a marble without looking then replaces it in the bag. What is the probability she will select a red and then a blue marble?

A. $\frac{8}{81}$

B. $\frac{6}{18}$

C. $\frac{6}{9}$

D. $\frac{8}{18}$

36. One coin is tossed 3 times. What is the probability it will land on tails 3 times in a row?

A. $\frac{1}{8}$

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

C. $\frac{1}{3}$

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

37. Which characteristic best describes a line graph?

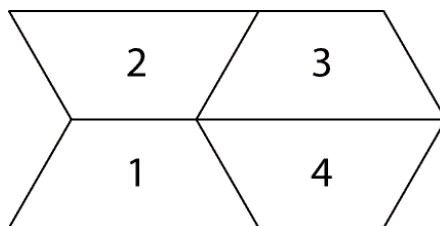
A. Used to display percentages

B. Compares data across different categories

C. Displays change in data over time

D. Uses pictures to represent data

38. The diagram shows a pattern that could be extended to create a tessellation. What transformation was used to get from trapezoid 1 to trapezoid 3?



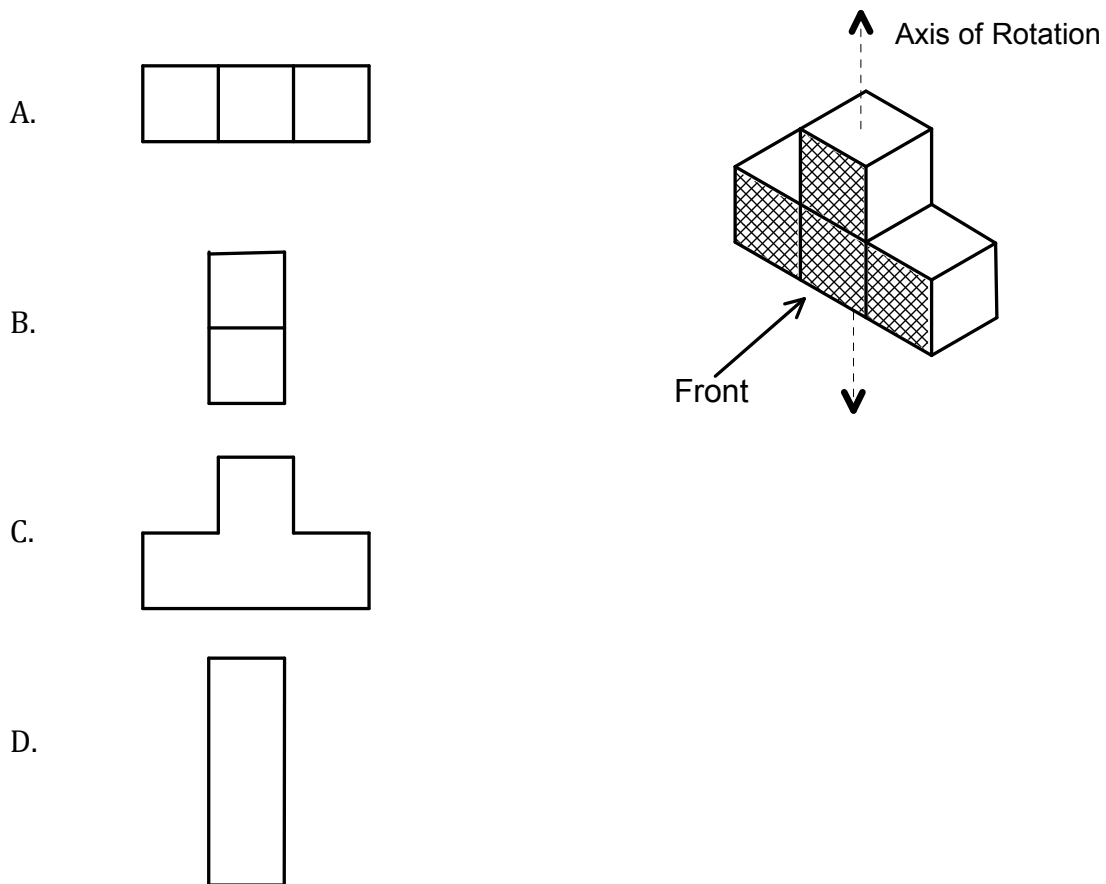
A. Clockwise rotation

B. Counterclockwise rotation

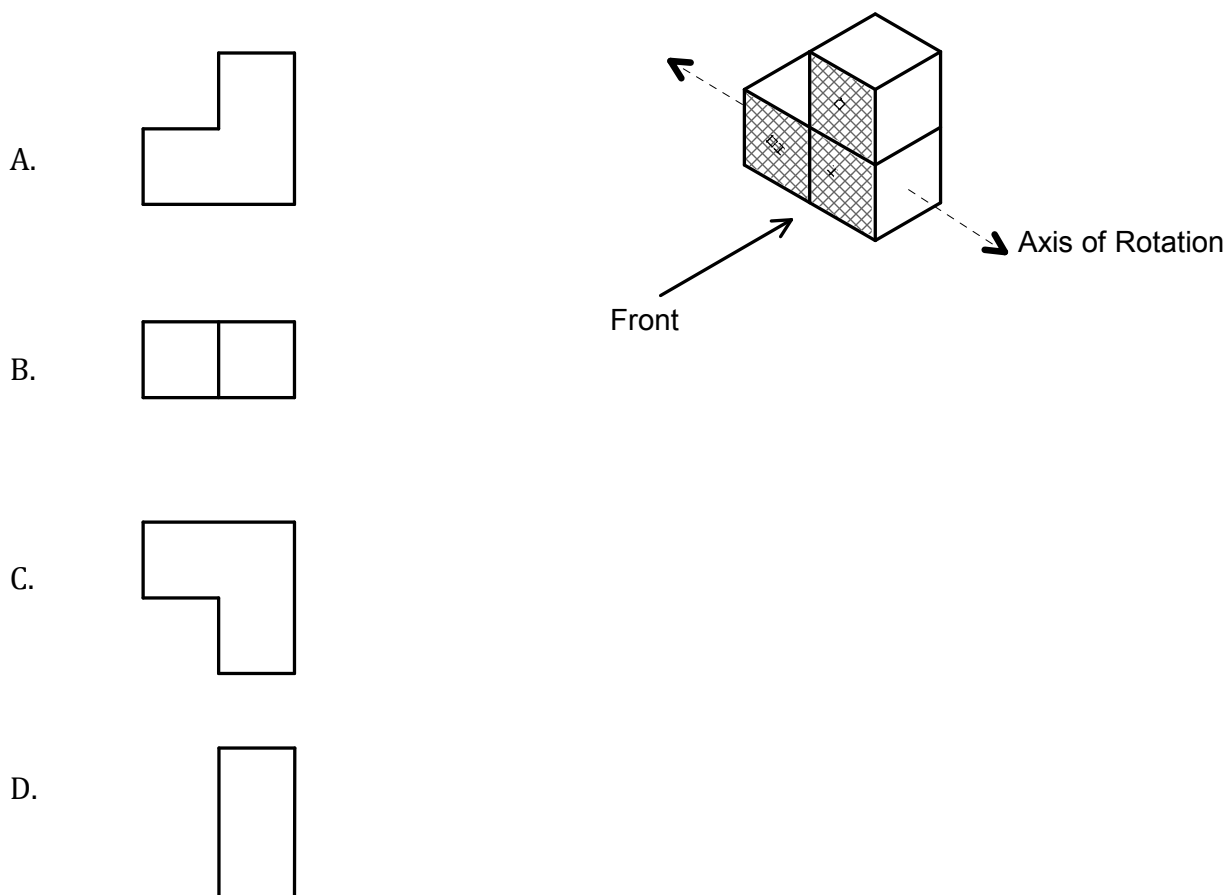
C. Reflection

D. Translation

39. Which is the **front view** of the object after it has been rotated 90° clockwise about the axis?



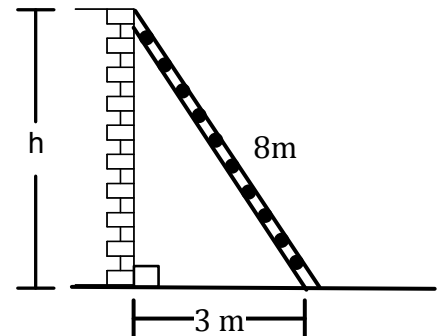
40. Which is the **top view** of the object after it has been rotated 90° away from you about the axis?



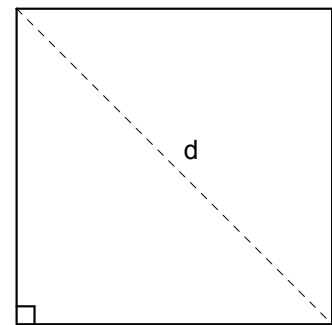
Section B: Constructed Response [30 Marks]

Write your answers in the spaces provided, and show all workings to achieve full marks.

5. A ladder is leaning against a wall. How high up the wall does the ladder reach?
Express your answer to one decimal place. [3 Marks]



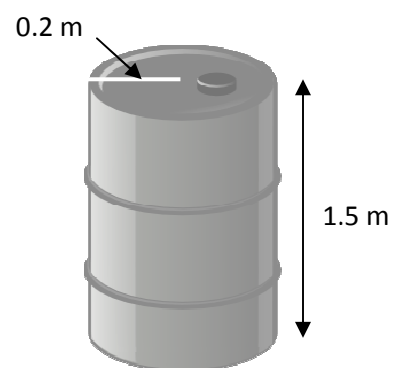
6. The area of the square shown is 625 cm^2 . What is the length of the diagonal?
Express your answer to one decimal place. [3 Marks]



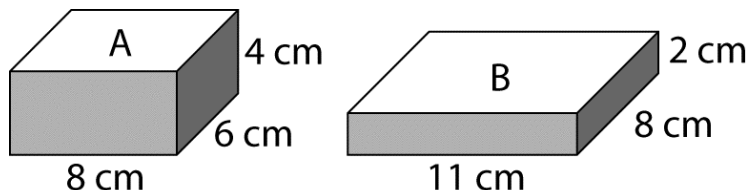
7. Evaluate. Show all workings [3 Marks]

$$\left(\frac{5}{6} - \frac{2}{3}\right) \div \left(\frac{1}{2} + \frac{3}{4}\right)$$

8. Chris is painting a barrel that is 1.5 m high and 0.2 m in radius. Including the top and bottom, what area will the paint have to cover? Show your work. [3 Marks]



9. Sean needs to buy nails for his carpentry project. The hardware store sells these full boxes of nails for the same price. Which one should he buy? Justify your answer. [3 Marks]



10. A Ford F-150 burns fuel at a rate of 0.113 litres per kilometre driven.
- A. If a person travelled a total distance of 200km, how many litres of fuel were burned? [1 Mark]
- B. If the price of fuel was \$1.10 per litre, how much did the trip cost in dollars? [1 Mark]

11. A video store offers the following choices:

CHOICE A: 25% off a DVD that has a regular price of \$20.00

CHOICE B: Buy 3 DVD's for a total of \$40.00

Which deal gives the better price for one DVD? Justify your answer.

[2 Marks]

12. Solve the equation. Show your workings.

[2 Marks]

$$3(x - 2) = 12$$

13. Bell Express Vu charges a basic monthly rate of \$20.00 and \$5.00 for each pay-per-view movie. This can be described by the equation $C = 5m + 20$.

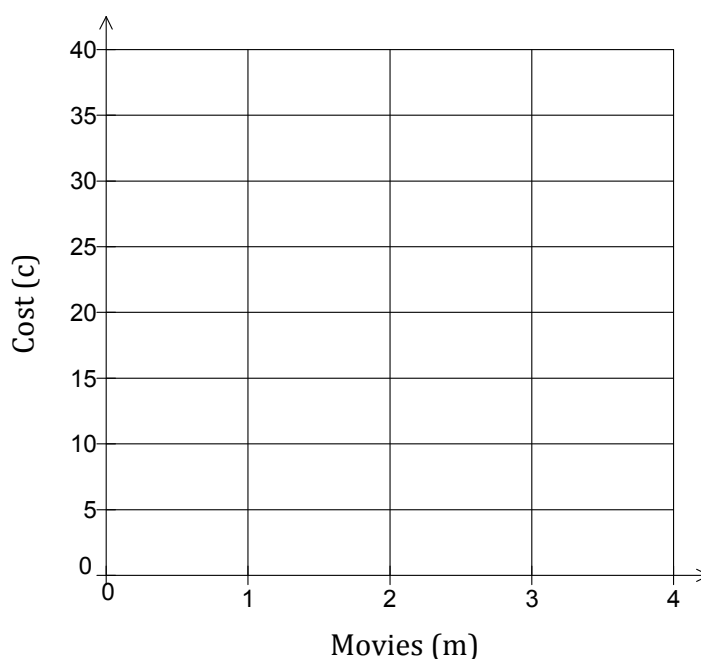
A. Determine the cost of viewing pay-per-view movies by completing the table.

[1 Mark]

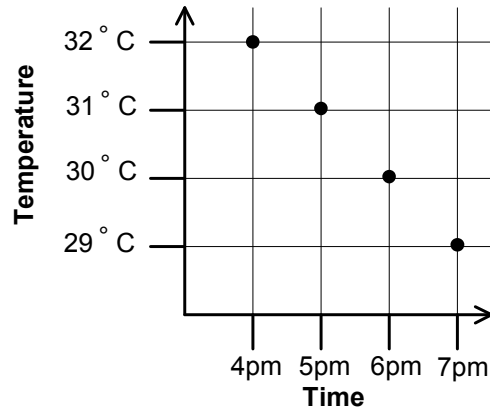
Movies (m)	Cost (C)
0	
1	
2	
3	

B. Create a graph using the data in the table of values.

[1 Mark]



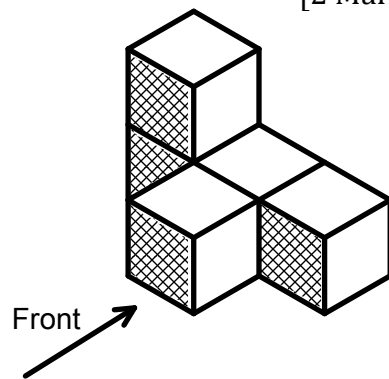
14. The graph shown gives the temperature at Puerto Vallarta in Mexico.



A. What is misleading about the graph? [1 Mark]

B. How can the graph be changed to represent the data accurately? [1 Mark]

15. Sketch and label the front, top, left side and right side views of the object. [2 Marks]



A grid of 12 rows and 18 columns of dots for sketching the views of the object.

16. Explain why only one of these will tessellate and the other will not.

[3 Marks]

