

Released Assessment Questions, 2018

QUESTIONS

Grade 9 Assessment of Mathematics • Applied

Read the instructions below.

Along with this booklet, make sure you have the *Answer Booklet* and the Formula Sheet.

You may use any space in this book for rough work for multiple-choice questions only.

The diagrams in these booklets are **not** all drawn to scale.

ATTENTION:

Unlike in the actual assessment booklet, the questions in this booklet are sorted by strand.

There are more multiple-choice questions in this booklet than in a regular booklet.

Continue to read the directions on the cover of the *Answer Booklet*.

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Remember to write your answers in your Answer Booklet.

- 1** What is the value of x in this proportion?

$$\frac{3}{7} = \frac{x}{42}$$

- a 18
- b 24
- c 38
- d 98

- 2** Information about four different brands of toothpaste is given below.

Which toothpaste has the lowest cost per mL?

- a \$1.35 for 100 mL
- b \$1.94 for 150 mL
- c \$2.40 for 200 mL
- d \$3.25 for 250 mL

- 3** It costs a company \$650 to process 52 kg of beans. The company processes 72 kg of beans in one day and 75 kg of beans the next day.

How much does it cost the company to process the beans for these two days in total?

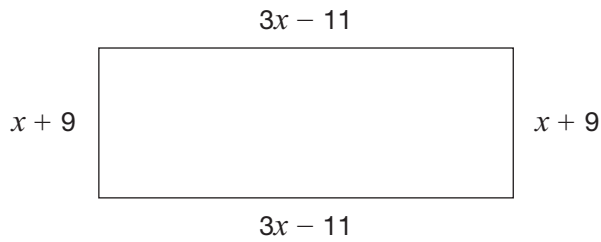
- a \$11.76
- b \$229.93
- c \$849.00
- d \$1837.50

- 4** Which value of x makes this equation true?

$$4x^2 = 144$$

- a 3
- b 6
- c 18
- d 24

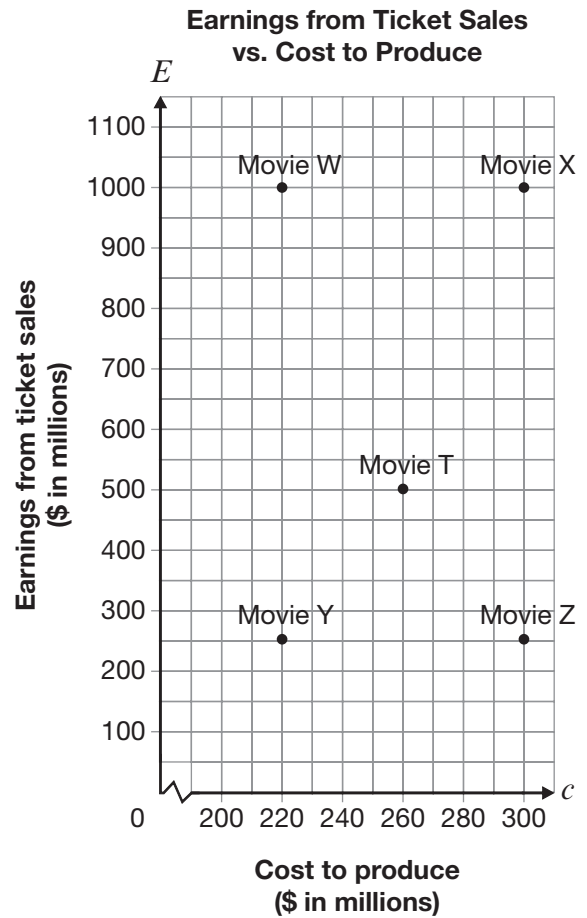
- 5** A rectangle is pictured with algebraic expressions that represent the lengths of its sides.



What is the simplified form of the expression that represents the perimeter of this rectangle?

- a $6x - 4$
- b $8x - 4$
- c $6x + 40$
- d $8x + 40$

- 6** Movie T costs \$260 million to produce and earns \$500 million from ticket sales, as shown by the graph below.



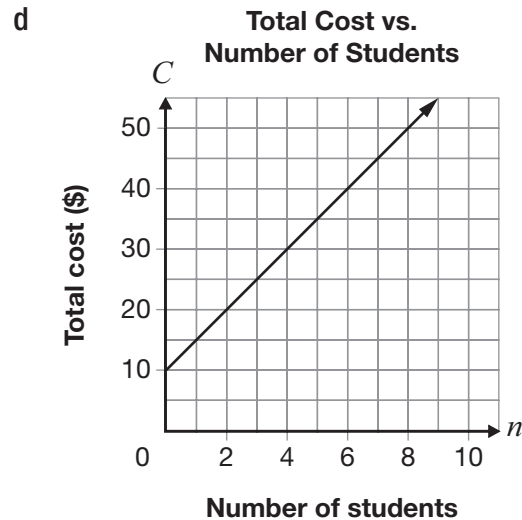
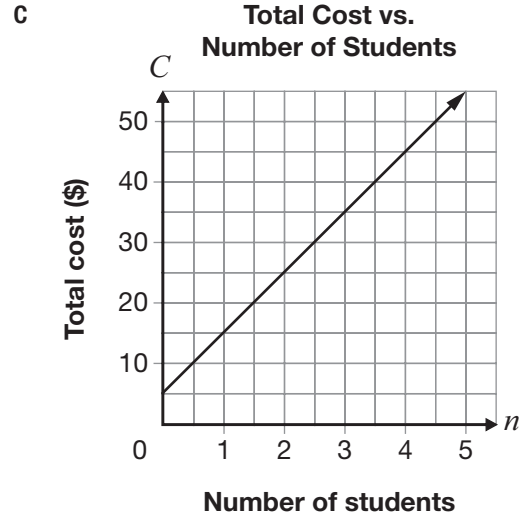
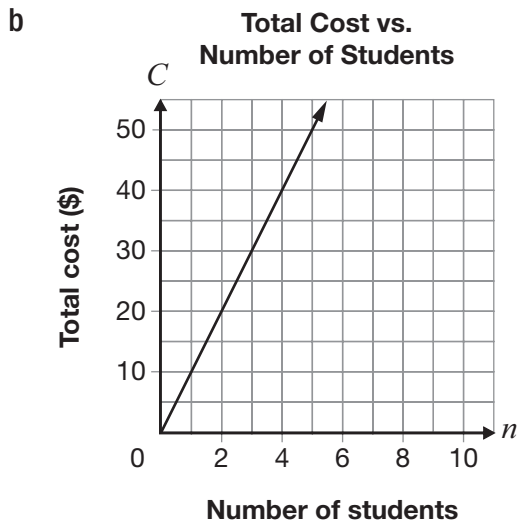
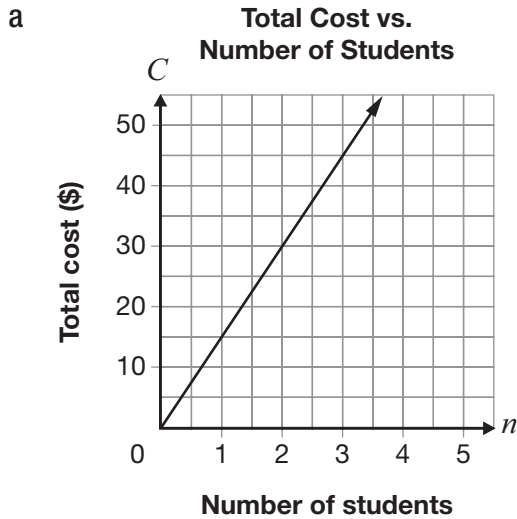
Which movie costs \$40 million less to produce than Movie T and has twice the earnings from ticket sales?

- a Movie W
- b Movie X
- c Movie Y
- d Movie Z

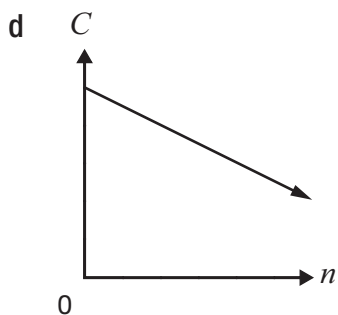
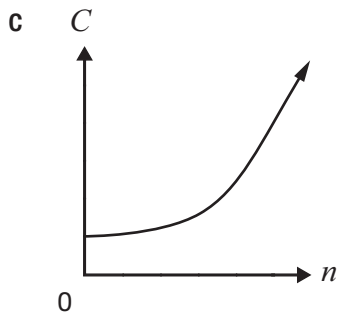
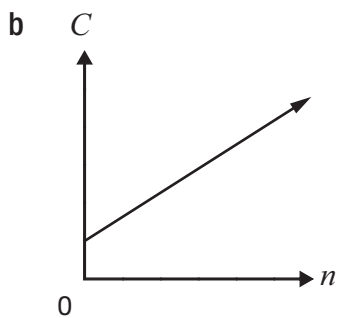
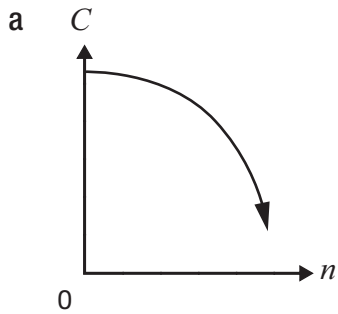
7 The total cost of a field trip to a museum has no initial fee and is made up of

- \$10 per student for entrance to the museum and
- \$5 per student for the bus.

Which of the following graphs represents the relationship between the total cost of the field trip and the number of students?



8 Which of these graphs represents an **increasing linear** relation between C and n ?



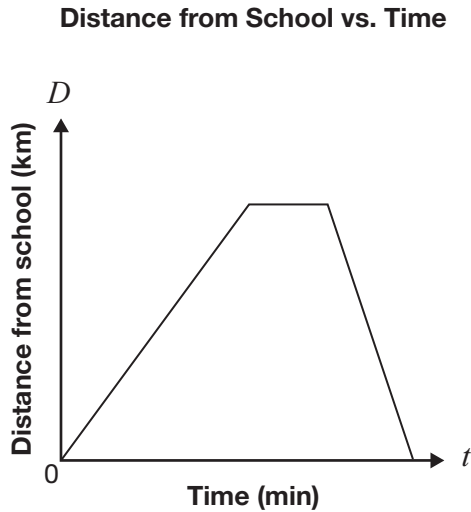
9 Marissa owns a repair service. She charges an initial fee and a cost per hour.

- For 1 hour, the total cost is \$80.
- For 2 hours, the total cost is \$100.

What type of variation is the relationship between total cost and number of hours worked, and what is its initial value?

- a** partial variation, \$80
- b** partial variation, \$60
- c** direct variation, \$80
- d** direct variation, \$60

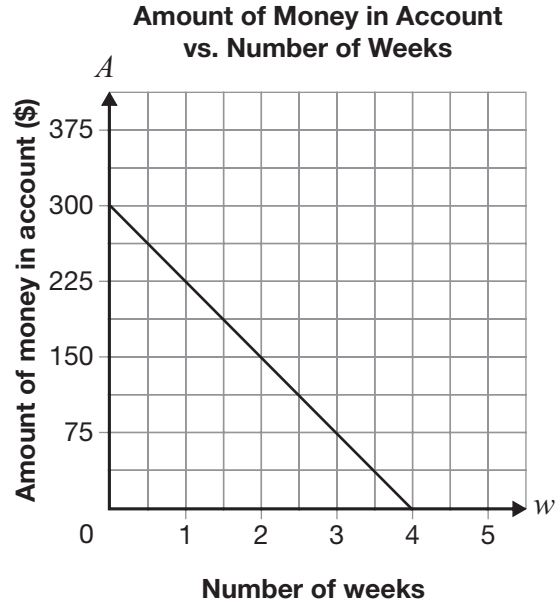
- 10** Amrit takes a walk during his lunch break. The graph below shows information about Amrit’s distance from school and time.



Which statement could describe Amrit’s walk?

- a He walks toward school, stops and then walks at a faster pace away from school.
- b He walks toward school, stops and then walks at a slower pace away from school.
- c He walks away from school, stops and then walks at a faster pace back to school.
- d He walks away from school, stops and then walks at a slower pace back to school.

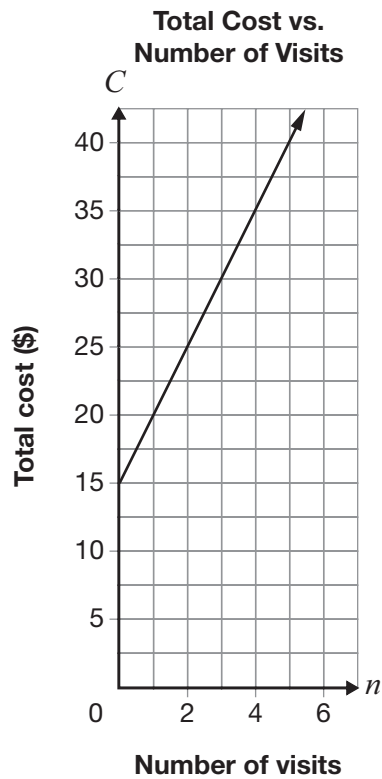
- 11** The graph below shows the relationship between the amount of money in Grace’s bank account, A , in dollars, and the number of weeks, w .



Which equation represents this linear relation?

- a $A = -75w$
- b $A = 300w - 4$
- c $A = 75w + 300$
- d $A = 300 - 75w$

- 12** A gym charges a membership fee for students and a cost per visit as shown by this graph.



The gym increases the membership fee by \$10 and decreases the cost per visit by \$1.

Which equation represents the relationship between the **new** total cost, C , in dollars, and the number of visits, n ?

- a $C = 25 + n$
- b $C = 10 + n$
- c $C = 25 + 4n$
- d $C = 10 + 4n$



Go to the *Answer Booklet* and complete the six open-response questions before continuing with question 19.

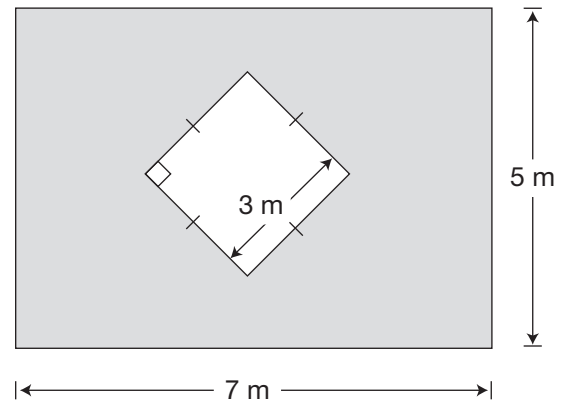
- 13** Open-Response
- 14** Open-Response
- 15** Open-Response
- 16** Open-Response
- 17** Open-Response
- 18** Open-Response

- 19** Colin is fencing his rectangular yard. He has 26 m of fencing to use.

Which of the following sets of dimensions will make the largest area?

- a length = 3 m, width = 10 m
- b length = 5 m, width = 8 m
- c length = 7 m, width = 6 m
- d length = 9 m, width = 4 m

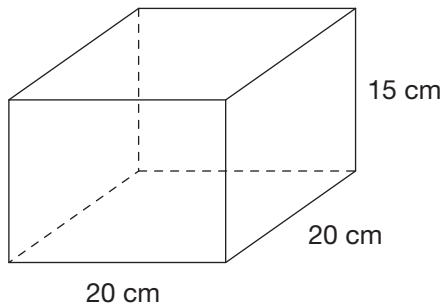
- 20** A rectangular wall with a square window is pictured below.



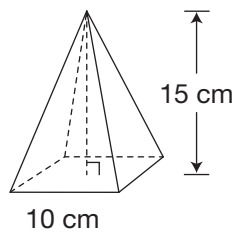
What is the shaded area of the wall, which does not include the window?

- a 26 m^2
- b 29 m^2
- c 32 m^2
- d 44 m^2

21 Alexa buys a block of wax in the shape of a square-based prism, as pictured.



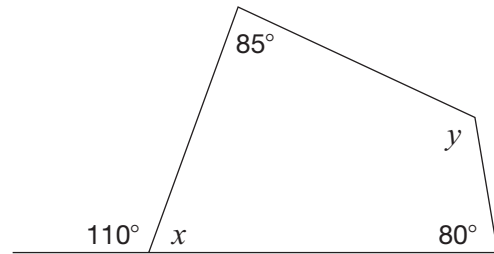
She melts the block and pours the wax into moulds to make square-based pyramid candles, as pictured.



How many pyramids should she be able to make from **one** block of wax?

- a 3 pyramids
- b 4 pyramids
- c 8 pyramids
- d 12 pyramids

22 What are the values of x and y in this diagram?



- a $x = 70^\circ, y = 125^\circ$
- b $x = 70^\circ, y = 100^\circ$
- c $x = 85^\circ, y = 100^\circ$
- d $x = 85^\circ, y = 80^\circ$