Released Assessment Questions, 2019

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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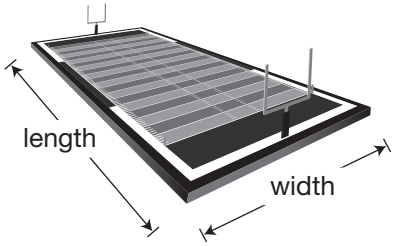
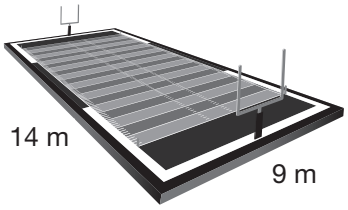
Remember to write your answers in your *Answer Booklet*.

1 A sports field is made using a length-to-width ratio of 8:3.



Which field was made using this ratio?

a



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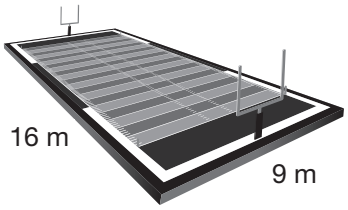

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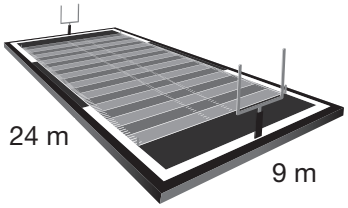

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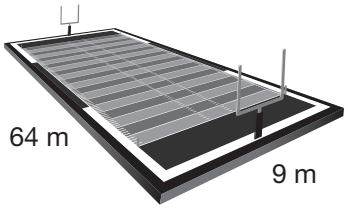


2 Xavier and Trevor work different jobs. They are each paid an hourly rate with no base pay.

In one week, Xavier earns $183 for working 15 hours and Trevor earns $114 for working 10 hours.

Which statement correctly compares their pay?

a Xavier earns $11.88 more per hour than Trevor.

b Xavier earns $13.80 more per hour than Trevor.

c If they each work 5 hours, Xavier earns $69 more than Trevor.

d If they each work 30 hours, Xavier earns $24 more than Trevor.

3 An alloy is made by mixing 9 parts zinc and 11 parts copper.

How many parts zinc would you need to mix with 88 parts copper?

a 20 parts zinc

b 72 parts zinc

c 86 parts zinc

d 108 parts zinc

4 The volume, V, of one golf ball with a radius of r can be determined using this equation.

$$V = \frac{4}{3}\pi r^3$$

There are 5 golf balls. Each golf ball has a radius of 2 cm.

Which is the closest to the **total volume** of the 5 golf balls?

a 84 cm^3

b 126 cm^3

c 168 cm^3

d 503 cm^3

5 What is a simplified form of this expression?

$$5x - 2 - 7x + 5$$

a $-2x + 3$

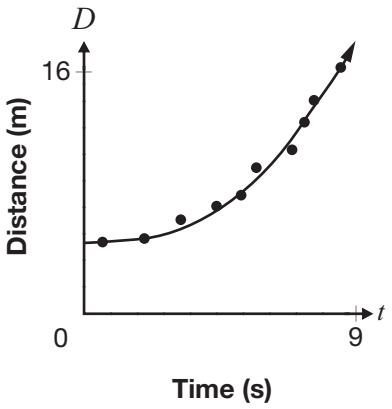
b $-2x + 7$

c $2x + 3$

d $2x + 7$

6 Which graph shows the line or curve of best fit that best represents the data?

a



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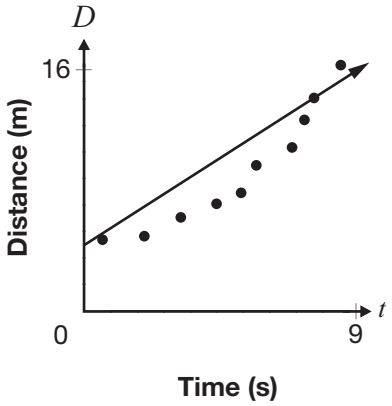

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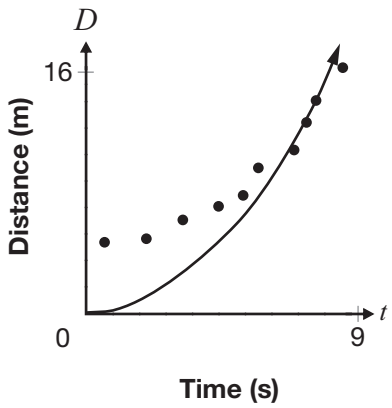

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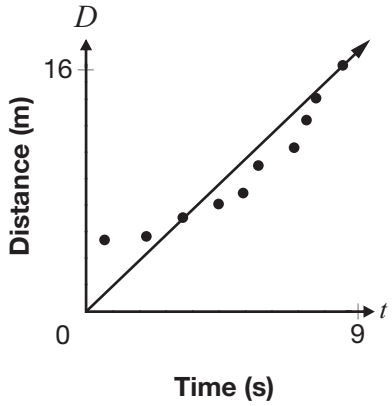


7 One of these tables shows information from a linear relationship.

Which one is it?

a

Number of toppings	Cost ($)
0	15
1	19
2	22
3	24

b

Time (s)	Distance (m)
5	0
10	2
15	6
20	12

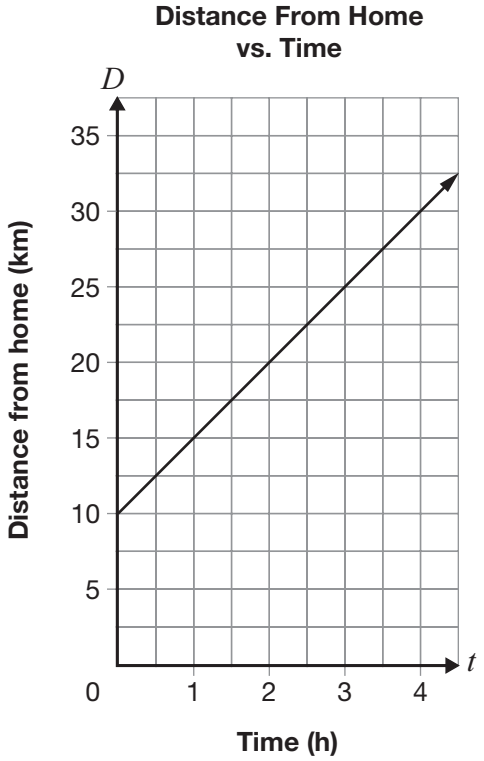
c

Time (s)	Volume (L)
0	10
1	12
4	14
9	16

d

Number of bottles	Cost ($)
2	6
4	10
6	14
8	18

8 This graph shows the relationship between the distance a person is from home and time.



What is the rate of change of this relationship?

a 1 km/h

b 2.5 km/h

c 5 km/h

d 15 km/h

9 Dina has a job where she earns a base pay of $25 plus $15 per hour. Leon has a job where he earns $20 per hour with no base pay.

There is a linear relationship between each person's total pay and the number of hours worked.

Whose relationship is a partial variation, and what is the initial value?

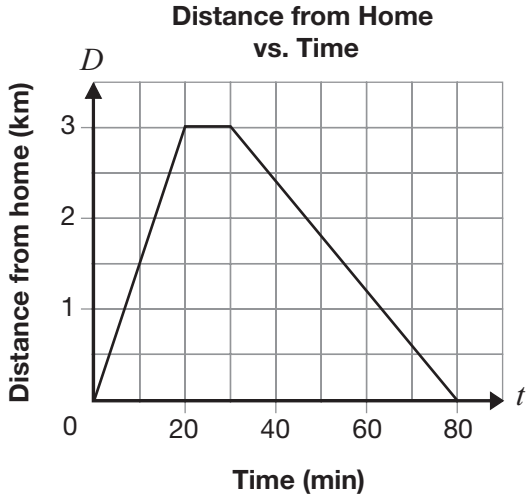
a Dina, $15

b Dina, $25

c Leon, $0

d Leon, $20

10 Jolene leaves home to go for a walk along a straight path. This graph represents her walk.



Which of the following best describes the three segments of her walk?

a She walks slowly, walks quickly then stops.

b She walks quickly, walks slowly then stops.

c She walks slowly, stops then walks quickly.

d She walks quickly, stops then walks slowly.

11 Kai estimates that the air temperature drops by 4 °C for every 1000 m he climbs up a mountain.

If the air temperature is 25 °C at the base of the mountain, how high must Kai climb for the air temperature to drop to 17 °C, according to his estimate?

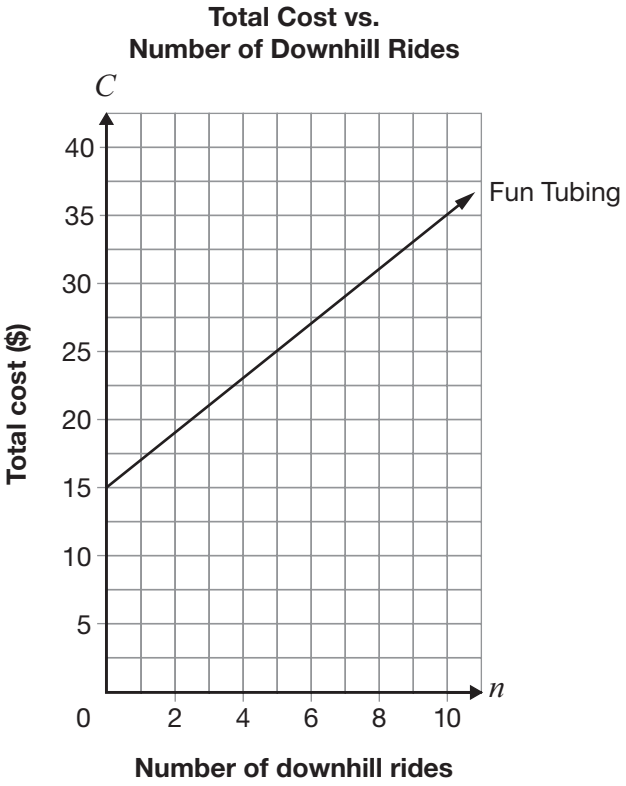
a 1000 m

b 2000 m

c 4000 m

d 8000 m

12 The linear relationship between the total cost of snow tubing and the number of downhill rides at Fun Tubing is represented by the graph below.



The total cost, C, for n downhill rides at Laketop Tubing is represented by the equation $C = 2.50n + 10$.

Which of the following statements is true?

a The total cost is the same for 5 downhill rides at both places.

b The total cost is the same for 10 downhill rides at both places.

c It is more expensive at Fun Tubing for more than 15 downhill rides.

d It is cheaper at Laketop Tubing for more than 10 downhill rides.

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

13 Open-Response

14 Open-Response

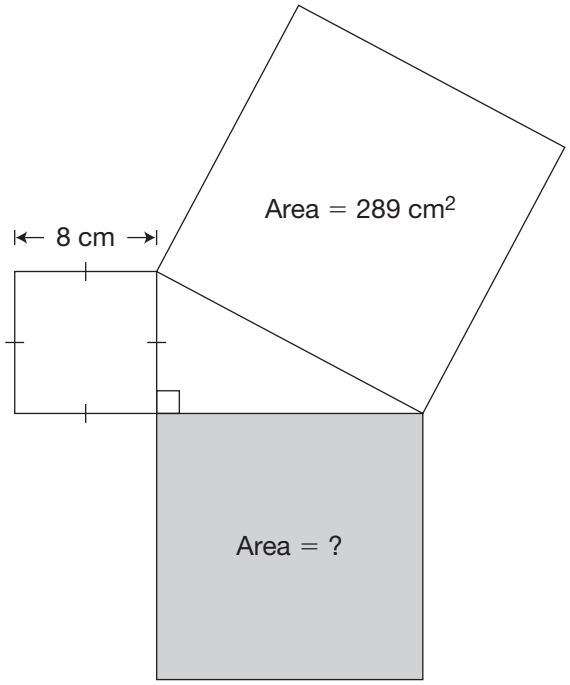
15 Open-Response

16 Open-Response

17 Open-Response

18 Open-Response

19 The diagram below is made up of three squares on the sides of a right triangle.



What is the area of the shaded square?

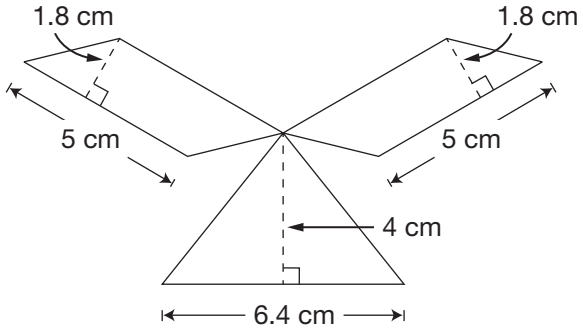
a 72 cm^2

b 81 cm^2

c 225 cm^2

d 353 cm^2

20 A company logo is made up of two identical parallelograms and one triangle.



Which of the following is closest to the total area of the logo?

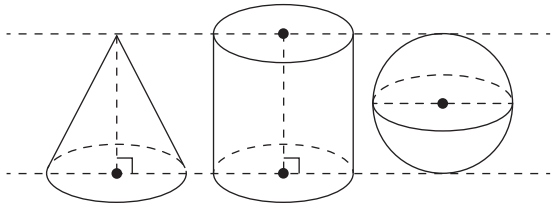
a 18 cm^2

b 22 cm^2

c 31 cm^2

d 44 cm^2

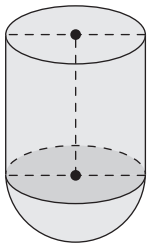
21 A class is doing an experiment with the cone, cylinder and sphere pictured.



The class discovers it takes

- 2 full cones to fill the sphere completely.
- 3 full cones to fill the cylinder completely.

A figure is made using the cylinder and half of the sphere.



How many full cones will it take to fill this figure?

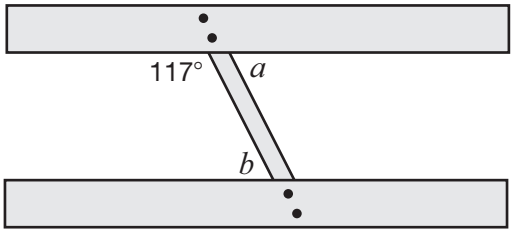
a 3 cones

b 4 cones

c 5 cones

d 6 cones

22 Three straight boards are connected.



What are the values of a and b if the top and bottom boards are parallel?

a $a = 63°, b = 63°$

b $a = 63°, b = 117°$

c $a = 117°, b = 63°$

d $a = 117°, b = 117°$