

Released Assessment Questions, 2017

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*.

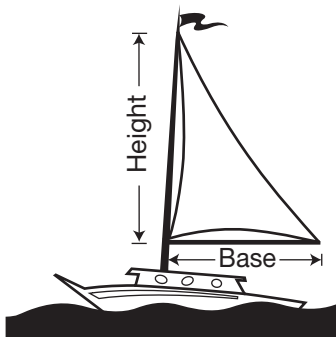
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Remember to write your answers in your *Answer Booklet*.

- 1** A sailboat is pictured below. Each sail has a height to length of base ratio of 3:2.



If the height of a sail is 9 m, which of the following proportions **could** be used to determine the length of the base, x , in m?

- a $\frac{3}{2} = \frac{9}{x}$
 b $\frac{x}{9} = \frac{3}{2}$
 c $\frac{x}{3} = \frac{2}{9}$
 d $\frac{3}{9} = \frac{x}{2}$

- 2** A recipe for homemade ice cream requires 5 cups of milk for every 4 eggs.
 According to the recipe, how many cups of milk should be used with 20 eggs?

- a 25
 b 21
 c 19
 d 16

- 3** A school's history club has 30 members, and $\frac{4}{5}$ of the members decide to go to a museum.
 Each student must pay a \$10 entrance fee.

What is the total entrance fee for the members who go?

- a \$300
 b \$240
 c \$60
 d \$24

- 4** Aidan buys a can of paint that will cover an area of 113 m^2 .

Which is closest to the **radius** of the largest circular floor Aidan could paint with the entire can of paint?

Hint:

$$A = \pi r^2$$

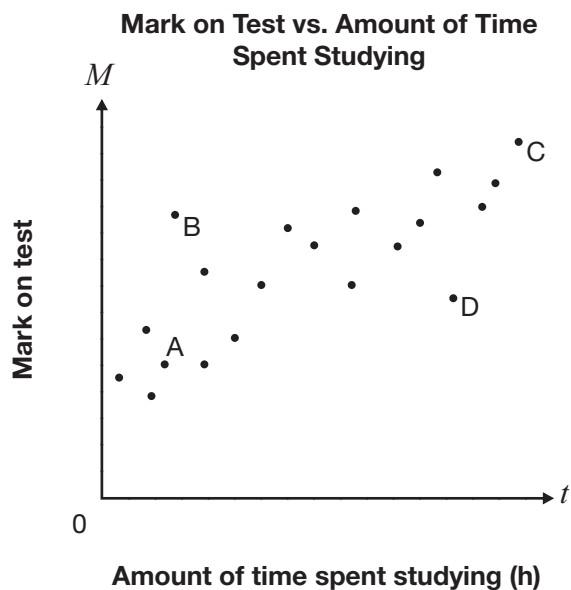
- a 3.4 m
 b 6.0 m
 c 10.6 m
 d 18.0 m

5 Which is a simplified form of this expression?

$$3x + (4 - 9x)$$

- a $3x$
- b $-2x$
- c $6x + 4$
- d $-6x + 4$

6 This graph shows the relationship between the mark received on a test and the amount of time spent studying.



Which point represents a student who received a **higher** mark than expected on a test?

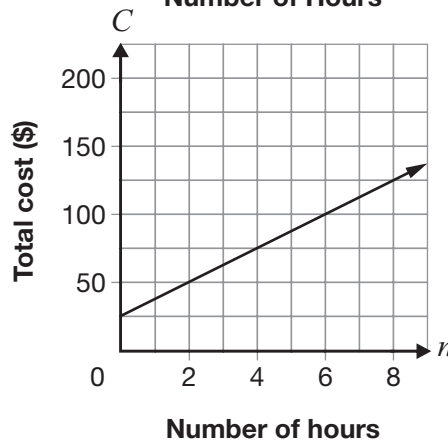
- a A
- b B
- c C
- d D

7 Information about four different relationships between C and n is given.

Which relationship between C and n is **not** linear?

- a $C = 15n$
- b The total cost for a rental, C , is made up of an initial cost of \$20 and \$2 per hour for n hours.

c **Total Cost vs. Number of Hours**



d

Number of hours, n	Total cost, C (\$)
2	15
4	20
6	30
8	45

8 Erik decides to save money to buy a new computer. He starts with some money. He then adds a constant amount each week.

- After 2 weeks, he has \$140.
- After 4 weeks, he has \$180.

Which equation represents the linear relationship between his total savings, S , in dollars, and the number of weeks since he started saving, n ?

- a $S = 20n + 100$
- b $S = 20n + 120$
- c $S = 40n + 100$
- d $S = 40n + 120$

9 Taneisha sells ice cream bars at a sporting event. She is paid according to the equation $E = 2n + 15$, where E represents her total earnings and n represents the number of ice cream bars she sells.

Which of the following is true?

- a Taneisha receives a base pay of \$17.
- b Taneisha is paid \$17 per ice cream bar she sells.
- c Taneisha is paid a base pay of \$2, plus \$15 per ice cream bar she sells.
- d Taneisha is paid a base pay of \$15, plus \$2 per ice cream bar she sells.

10 The value of an investment, V , in dollars, can be determined using the following equation, where n is the number of months.

$$V = 43.75 + 1.75n$$

What is the value of the investment at 6 months?

- a \$10.50
- b \$51.50
- c \$54.25
- d \$273.00

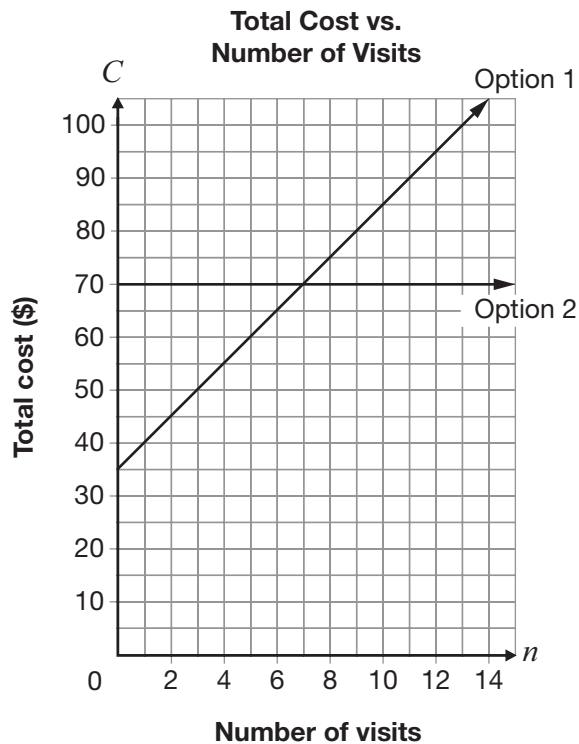
11 Corrie is driving at a constant speed on the highway from her home to Sudbury.

- As she starts driving on the highway, she sees a sign that says that Sudbury is 540 km away.
- After driving on the highway for 2 hours, she sees another sign that says that Sudbury is 360 km away.
- She continues driving at the same speed to Sudbury.

How much time will it take Corrie to drive to Sudbury from the **second sign**?

- a 1.3 hours
- b 1.5 hours
- c 2.0 hours
- d 4.0 hours

- 12** An amusement park offers two options for entrance, as shown on the graph below.



Which of the following statements about the options is true?

- a For 4 visits, Option 2 is \$15 cheaper.
- b For fewer than 8 visits, Option 2 is cheaper.
- c For 11 visits, Option 1 is \$10 more expensive.
- d For more than 7 visits, Option 1 is more expensive.



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 A fence is made for each of the four rectangular gardens pictured below.

Which garden requires the **least** amount of fencing to fence all 4 sides?

a 9 m



b 12 m



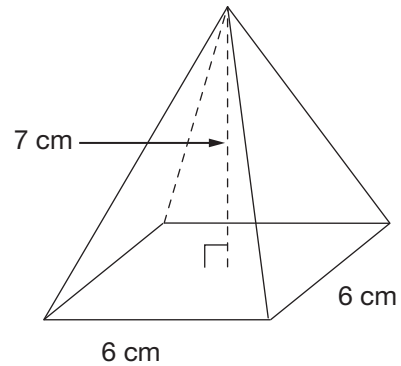
c 18 m



d 36 m



20 Solid Solutions makes solid glass decorations in the shape of square-based pyramids, as pictured below.



They create a larger decoration by tripling the length of each side of the base but keeping the height the same.

How much **more** glass is needed to completely fill the larger decoration than to completely fill the original decoration?

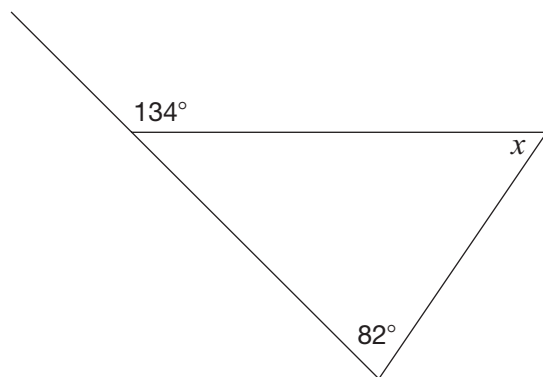
a 56 cm^3

b 168 cm^3

c 672 cm^3

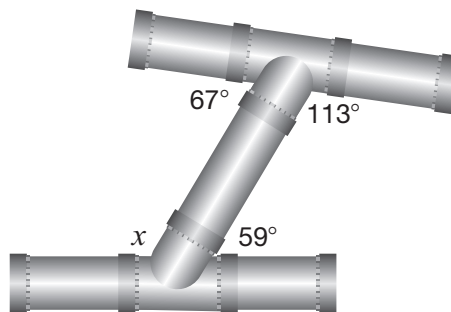
d 2016 cm^3

21 What is the value of x in the diagram below?



- a 46°
- b 52°
- c 82°
- d 98°

22 A plumber repairs this section of pipes. The pipes are **not** parallel.



What is the value of x ?

- a 172°
- b 121°
- c 113°
- d 67°