



What Would You Do? (EQAO Style)

The following pages contain EQAO questions from previous Grade 9 Math assessments.

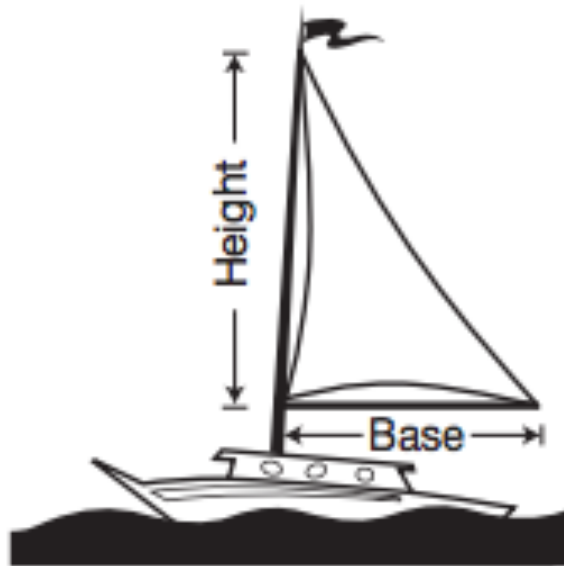
Consider the key concepts to which the question connects.

Create a plan for how you would attack each problem.

Identify areas of further need.

Question 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?

Question 2.

Hamburgers and Hot Dogs

At a local event, the ratio of hamburgers to hot dogs sold is 5:3.

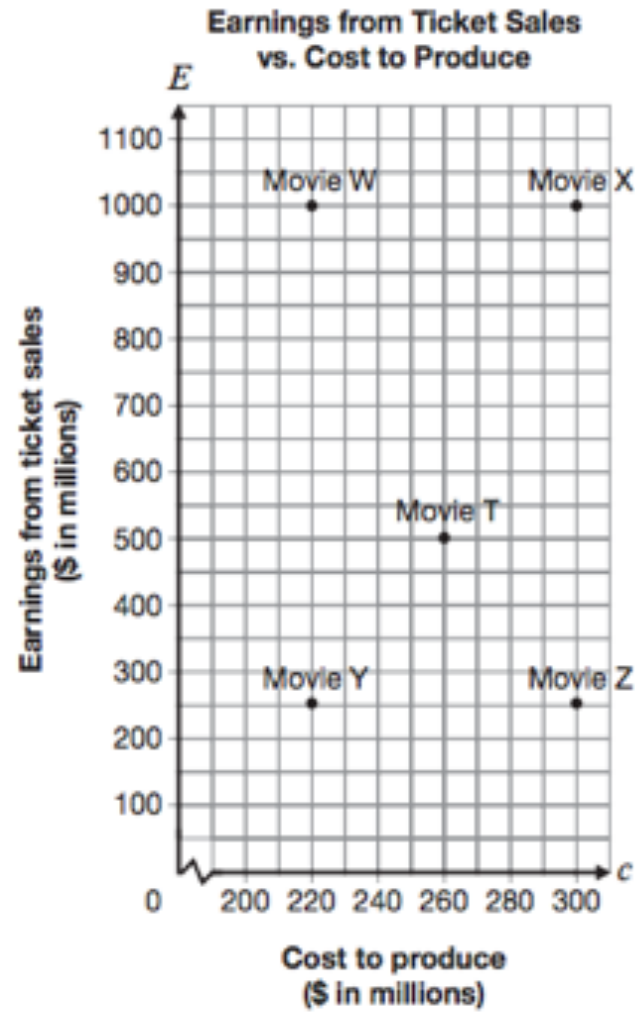
The number of hamburgers sold is 275.

How many **more** hamburgers than hot dogs are sold?

Show your work.

Question 3.

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

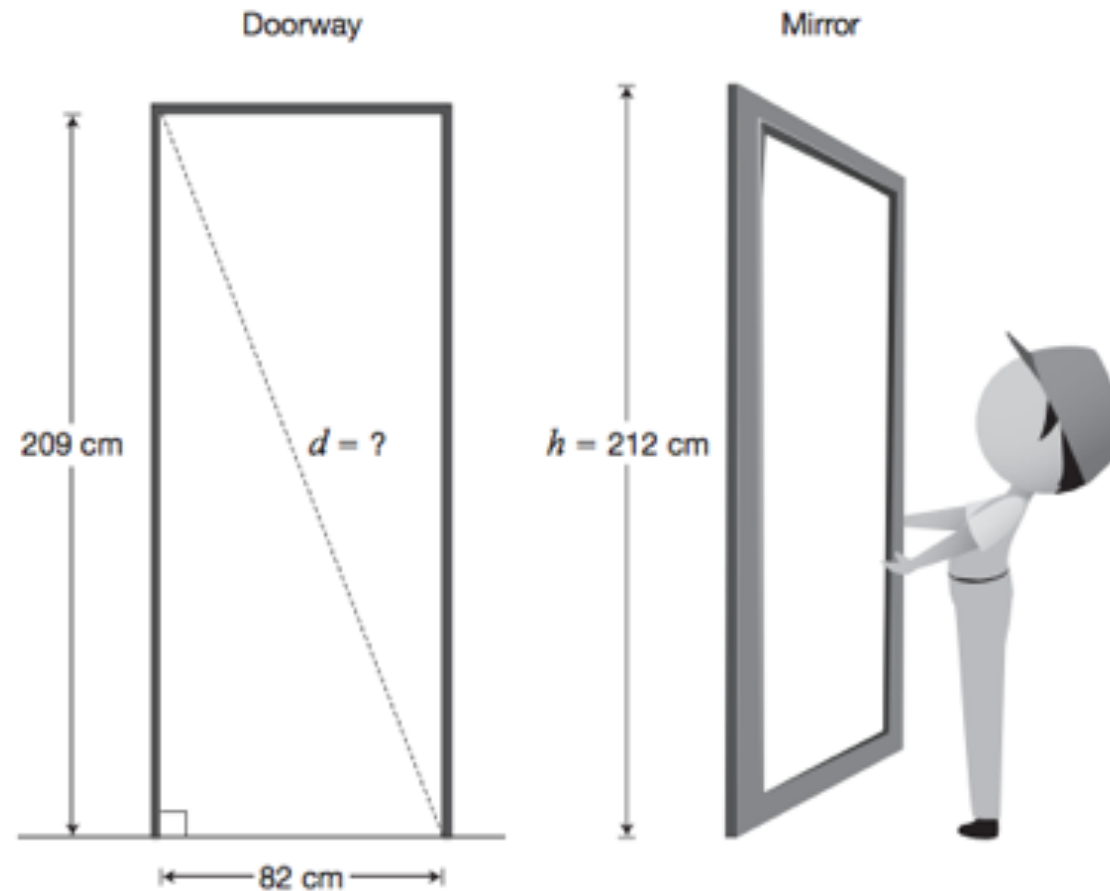


Which movie costs \$40 million less to produce than Movie T and has twice the earnings from ticket sales?

Question 4.

Moving a Mirror

A rectangular doorway and a square mirror are pictured below. The mirror's sides are 212 cm long. The mirror is tilted along the line, d , to fit through the doorway.



Determine how much greater the length of the diagonal, d , in the doorway is than the height of the mirror h .

Question 5.

Ski Day

Information about the linear relationship between the total cost of skiing, C , in dollars, and time, t , in hours, at three different ski resorts is shown below.

Determine the initial value for each relationship.

Ski Slope Hill		Mountain Ski	Snow Way Adventures											
<table border="1"> <thead> <tr> <th>Time, t (h)</th> <th>Total cost, C (\$)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>10</td> </tr> <tr> <td>2</td> <td>20</td> </tr> <tr> <td>3</td> <td>30</td> </tr> <tr> <td>4</td> <td>40</td> </tr> <tr> <td>5</td> <td>50</td> </tr> </tbody> </table>	Time, t (h)	Total cost, C (\$)	1	10	2	20	3	30	4	40	5	50	$C = 8t$	
Time, t (h)	Total cost, C (\$)													
1	10													
2	20													
3	30													
4	40													
5	50													
Initial value: _____	Initial value: _____	Initial value: _____												

Circle each relationship that represents a partial variation.

Ski Slope Hill

Mountain Ski

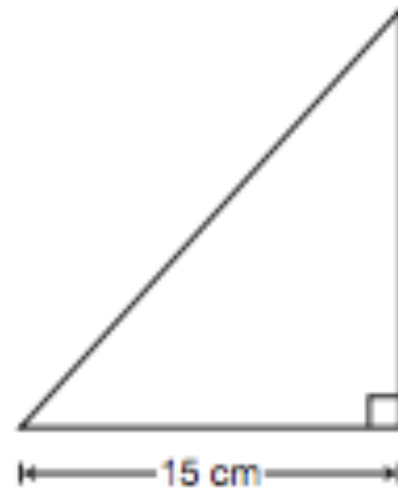
Snow Way Adventures

Justify your answer.

Question 6.

Tall Triangles

A triangle is pictured below with the length of its base labelled.



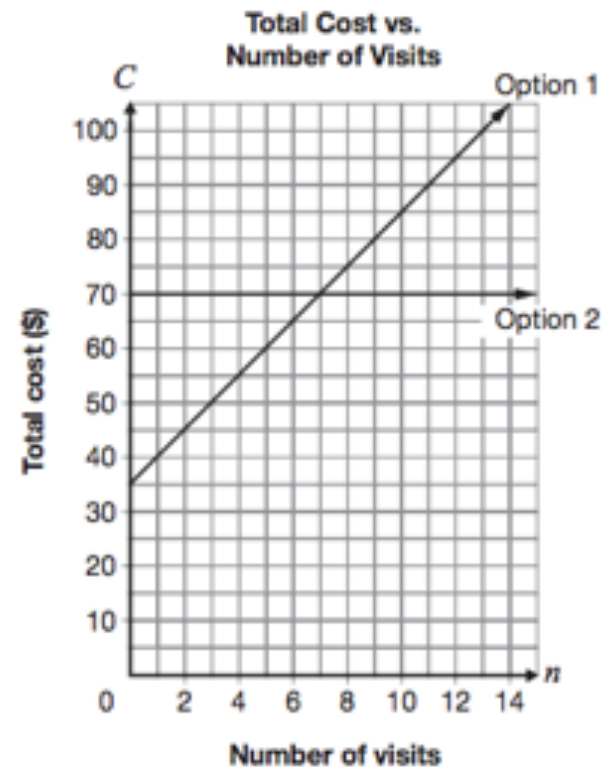
The area of the triangle is 123 cm^2 .

Determine the height of the triangle.

Show your work.

Question 7.

- 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.

Question 8.

- 1** A ball is dropped from a cliff that is 135 m high. The relationship between the height of the ball, h , in metres, and time, t , in seconds, can be represented by the equation $h = -4.9t^2 + 135$.

Which is closest to the height of the ball after 2.1 seconds?

- a 22 m
- b 29 m
- c 113 m
- d 125 m

Question 9.

3 Which is a simplified form of $3x(7x - 2)$?

a $21x^2 - 2x$

b $21x^2 - 2$

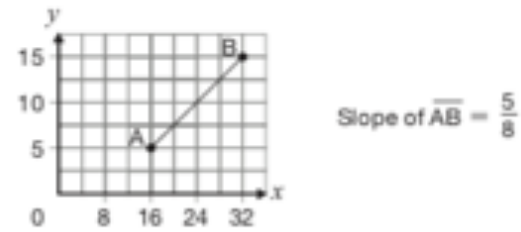
c $21x^2 - 6$

d $21x^2 - 6x$

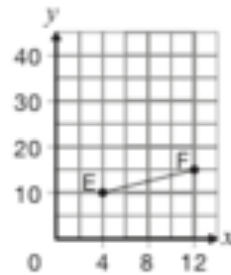
Question 10.

II Comparisons

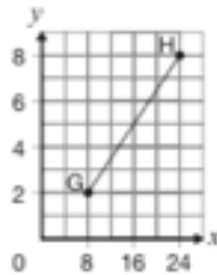
Line segment AB has a slope of $\frac{5}{8}$.



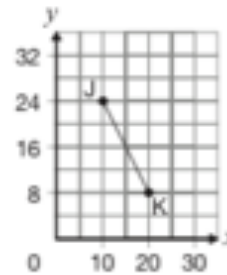
Determine the slope of line segments EF, GH and JK below.



Slope of $\overline{EF} =$ _____



Slope of $\overline{GH} =$ _____



Slope of $\overline{JK} =$ _____

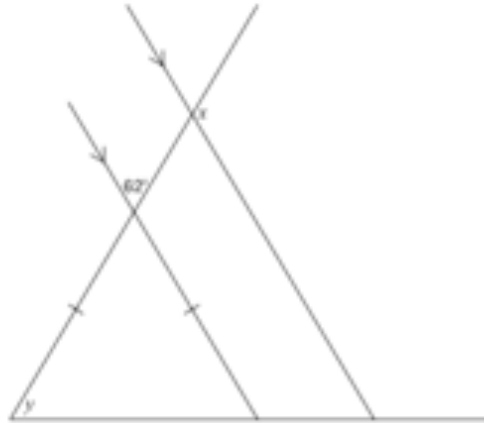
Complete the chart by comparing the slope of each of line segments EF, GH and JK to the slope of line segment AB if all the line segments were graphed on the same grid.

	Line segment EF	Line segment GH	Line segment JK
Comparison to line segment AB	Circle one: parallel perpendicular neither	Circle one: less steep more steep same steepness	Circle one: parallel perpendicular neither

Question 11.

| What's Parallel?

A diagram involving parallel lines is shown.



Determine the values of x and y using geometric properties.

Show your work.

Work:	Work:
$x =$ _____	$y =$ _____

Question 12.

Saving on Apples

Janice and Irene buy apples at different stores. Both stores sell apples by the kilogram.

- Janice pays \$6.00 for 3.75 kg of apples.
- Irene pays \$5.25 for 3 kg of apples.

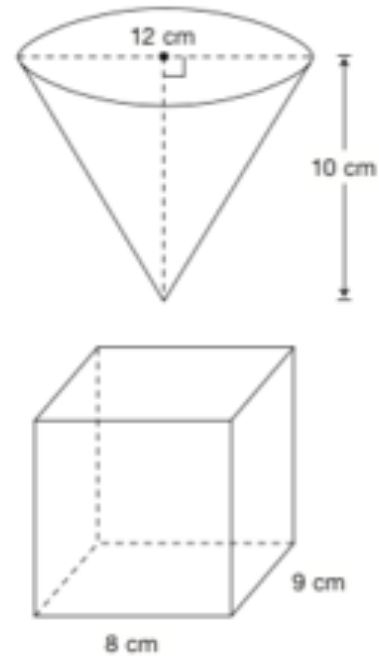
How much **more** will Irene pay than Janice if they had each bought 9 kg of apples?

Show your work.

Question 13.

What Height?

Two containers are pictured below. One container is a cone, and the other is a rectangular-based prism.



The cone is completely filled with water, and then the water is poured into the empty prism, without spilling.

Determine the height of the water in the prism.

Show your work.

Question 15.

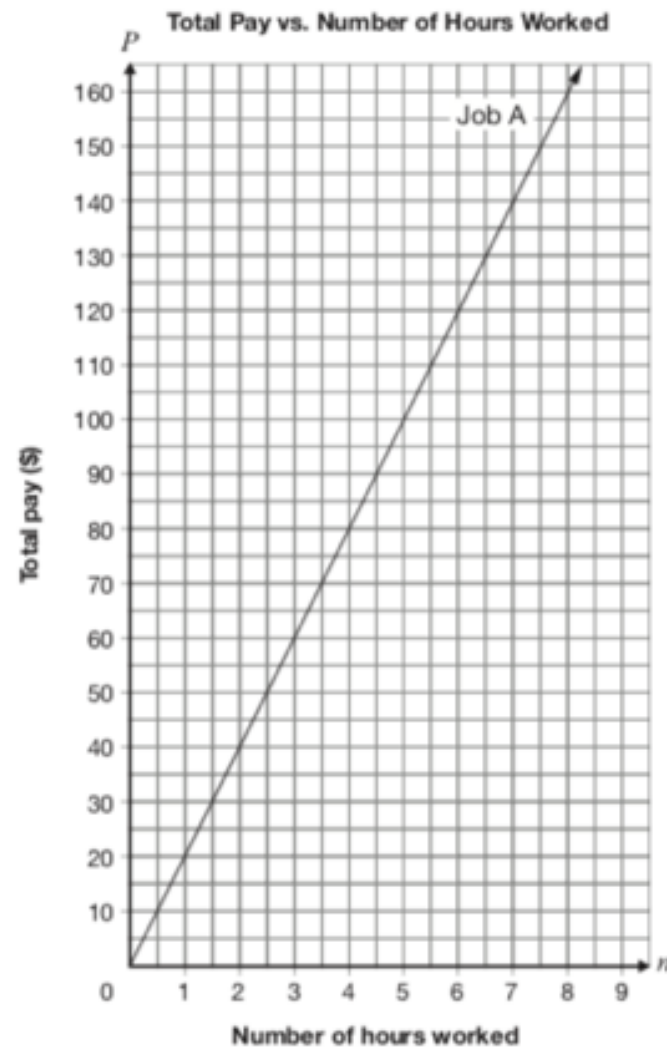
The Better Choice

Shane has a choice between two jobs helping people around his neighbourhood.

- **Job A:** Shane's total pay is shown on the grid below.
- **Job B:** Shane will receive base pay of \$30, plus \$12.50 per hour.

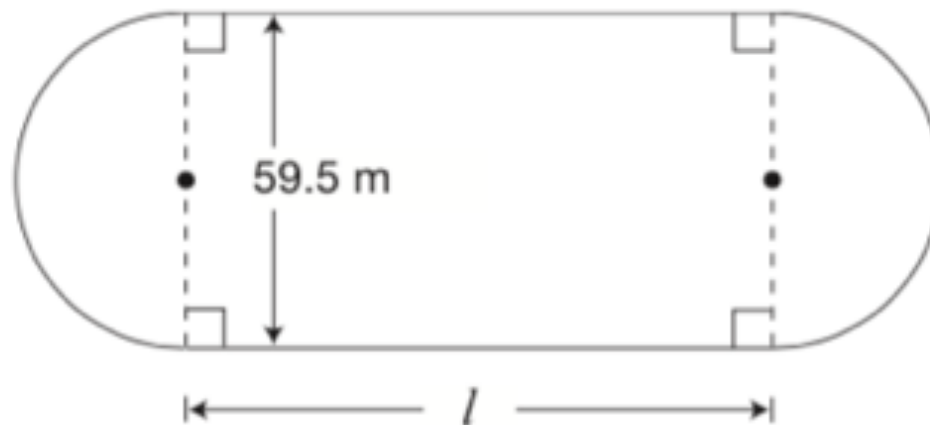
Determine the conditions under which Shane should select Job A and the conditions under which he should select Job B.

Justify your answer.



Question 16.

- 21** A diagram of a track with a perimeter of 475 m is shown below.



Which of the following is closest to the length of a side of the rectangular part of the track, l ?

- a 51 m
- b 144 m
- c 288 m
- d 356 m

