

Kim owes her mother \$100. She will pay her back \$5 each week.

Which table shows data about the amount Kim still owes for the first 5 weeks of payments?

a

Week	Amount still owing
0	\$0
1	\$5
2	\$10
3	\$15
4	\$20
5	\$25

b

Week	Amount still owing
0	\$100
1	\$105
2	\$110
3	\$115
4	\$120
5	\$125

c

Week	Amount still owing
0	\$100
1	\$80
2	\$60
3	\$40
4	\$20
5	\$0

d

Week	Amount still owing
0	\$100
1	\$95
2	\$90
3	\$85
4	\$80
5	\$75

## Grade 9 Applied



## Practice Session #3

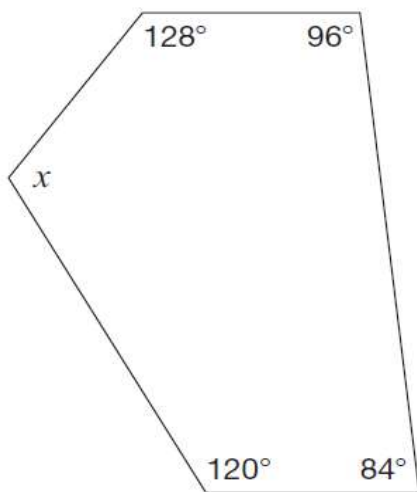
**2** Billy has 3 apples and 4 oranges.

Which of the following has a ratio of apples to oranges equivalent to Billy's?

- a 3 apples and 8 oranges
- b 4 apples and 3 oranges
- c 8 apples and 6 oranges
- d 9 apples and 12 oranges

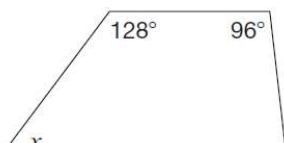
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**3** What is the value of  $x$  in the diagram below?



- a  $60^\circ$
- b  $68^\circ$
- c  $112^\circ$
- d  $128^\circ$

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- a  $60^\circ$
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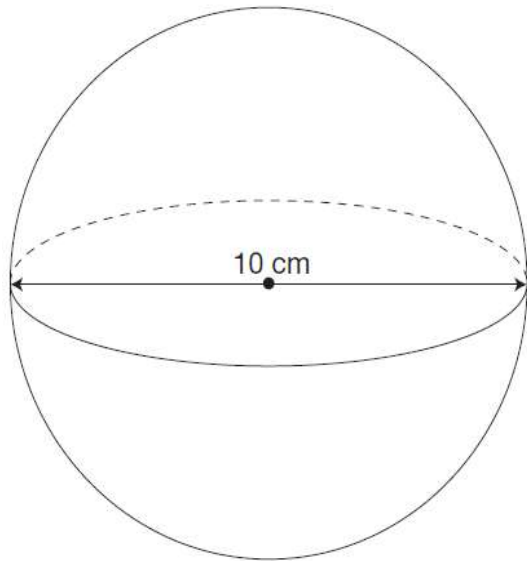
**4** The cost of granola bars at two different stores is shown below.

Food-O-Rama	Groceryland
Box of 12 granola bars \$7.44	Each box has 5 granola bars 2 boxes for \$6.00

What is the difference in the cost per granola bar at these two stores?

- a  $2\text{¢}$
- b  $6\text{¢}$
- c  $58\text{¢}$
- d  $62\text{¢}$

- 5 The sphere pictured below has a diameter of 10 cm.



Which expression represents the volume of the sphere?

- a  $\frac{4\pi(5)(3)}{3}$
- b  $\frac{4\pi(5)^3}{3}$
- c  $\frac{4\pi(10)^3}{3}$
- d  $\frac{4\pi(10)(3)}{3}$

- 6 What is the solution to the equation  $3x + 80 = 12x - 1$ ?

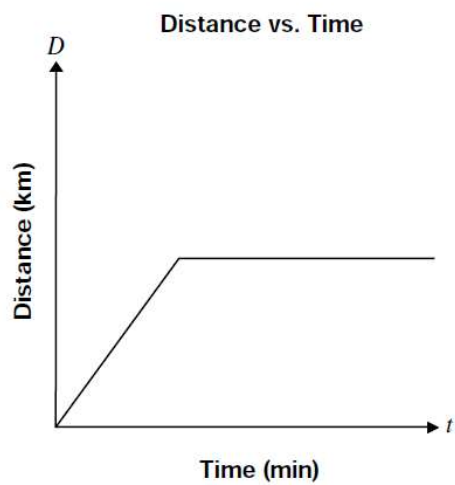
- a -27
  - b -9
  - c 9
  - d 27
- 

- 7 What is a simplified form of the expression  $2x - 3 - 5x + 1$ ?

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

8

Every day, MaryLou takes a walk.



Which statement describes **her walk** as **modelled** by the graph?

- a She starts slowly, increases her speed and then walks at a constant rate.
- b She walks at a constant rate and then stops.
- c She walks at an increasing rate and then walks at a constant rate.
- d She walks at a fast constant rate and then walks at a slower constant rate.

9

The ratio of girls to boys in Mr. Dilworth's music class is 18:12. What percent of the students are boys?

- A 12%
- B 40%
- C 60%
- D 67%

10

Which table shows a linear relationship between  $x$  and  $y$ ?

**A**

$x$	$y$
1	1
2	4
3	9
4	16

**C**

$x$	$y$
1	10
2	20
3	30
4	40

**B**

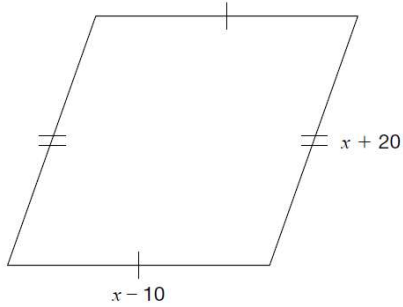
$x$	$y$
1	2
2	4
3	8
4	16

**D**

$x$	$y$
1	10
2	100
3	1000
4	10000

## Fabulous Fencing

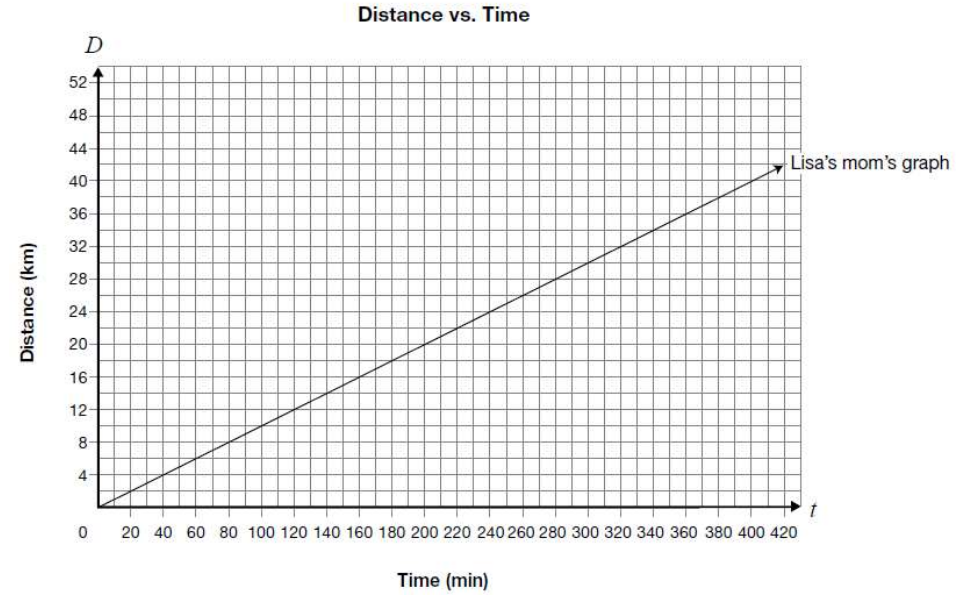
Pauline builds a fence around her garden, which is shaped like a parallelogram, as shown below.



Pauline uses 100 metres of fencing along the perimeter of the garden. Find the dimensions of her garden. Show your work.

## Marathon Running

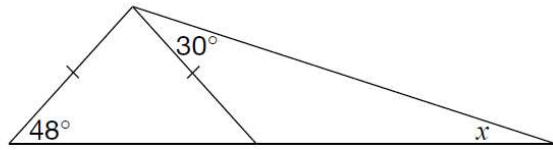
Lisa and her mom decide to participate in a long-distance race called a marathon. Lisa's mom walks the marathon at an average of 1 kilometre every 10 minutes, as shown by the graph.



Lisa starts the marathon 2 hours after her mom started and averages 1 kilometre every 5 minutes.

When will Lisa pass her mom? Use a graphical model.

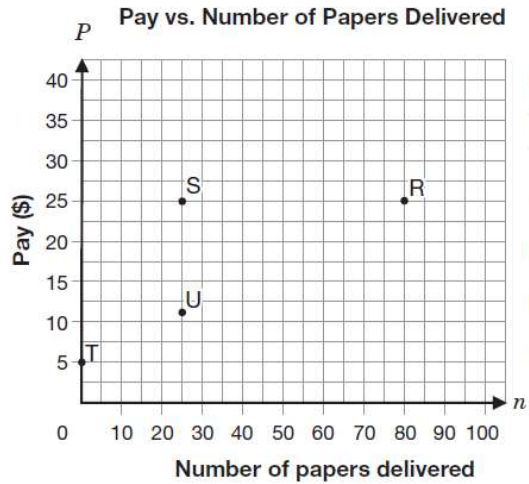
**13** Determine the value of  $x$ .



- A  $x = 18^\circ$
- B  $x = 30^\circ$
- C  $x = 48^\circ$
- D  $x = 78^\circ$

Mia delivers the local newspaper. Her base pay is \$5 per week, and she gets \$0.25 per paper.

**14**



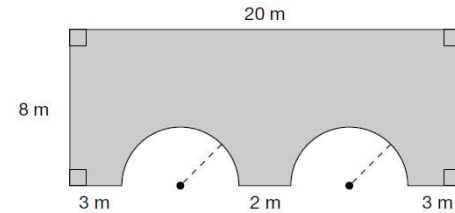
Which of the points on the graph represents Mia's pay for delivering 25 newspapers in a week?

- a Point R
- b Point S
- c Point T
- d Point U

**15**

**Big Bridge**

The dimensions of a side of a bridge are shown in the diagram below. The arches are semicircles with the same radius.

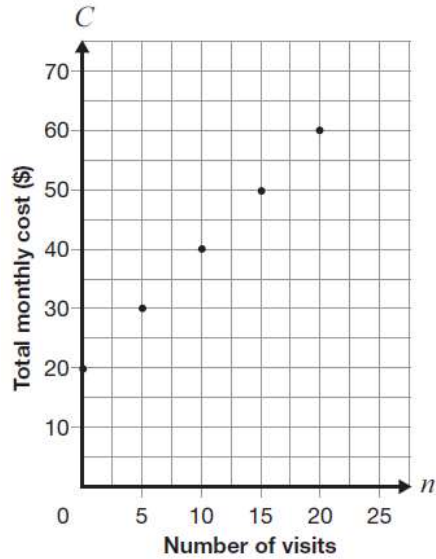


Determine the area of the side of the bridge shown. Show your work.

16

Tyler belongs to a fitness club at the community centre. The graph below represents the relationship between the number of times he visits the club and his total monthly cost.

Total Monthly Cost vs. Number of Visits

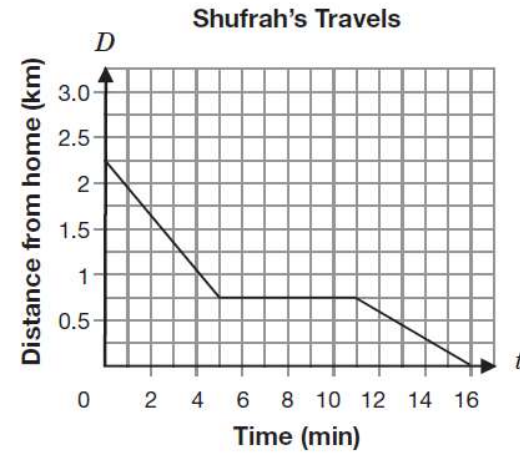


What type of variation is this relationship, and what is the initial value?

- Direct variation, and initial value is 0
- Partial variation, and initial value is 0
- Direct variation, and initial value is 20
- Partial variation, and initial value is 20

17

The relationship between  $t$ , the number of minutes Shufrah travels, and  $D$ , the distance she is from home, is shown on the grid below.

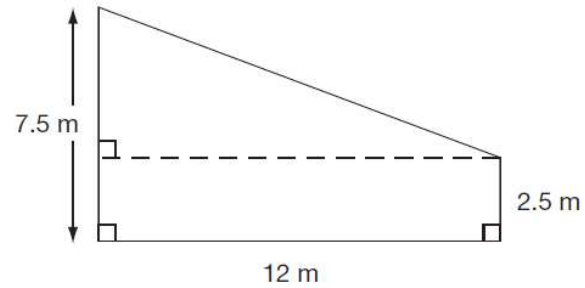


Which of the following statements best describes the way Shufrah travels?

- While travelling toward her home, Shufrah rides her bike, stops and then walks.
- While travelling toward her home, Shufrah rides her bike, walks and then rides her bike.
- While travelling away from home, Shufrah rides her bike, stops and then walks.
- While travelling away from home, Shufrah walks, rides her bike and then walks.

**18 Paint**

Jackson is buying paint for his wall.



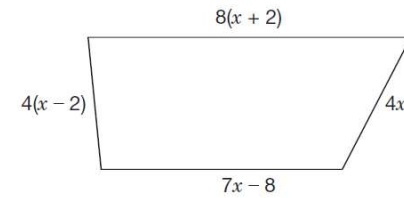
One litre of paint will cover  $9 \text{ m}^2$ .

How many litres of paint does he need to cover the wall?

Justify your answer.

**19****Field Maintenance**

A field in the shape of a trapezoid has a perimeter of 460 m. A fence is being built along the field's perimeter.



Determine the length of fencing needed for each side of the field.

Show your work.



20

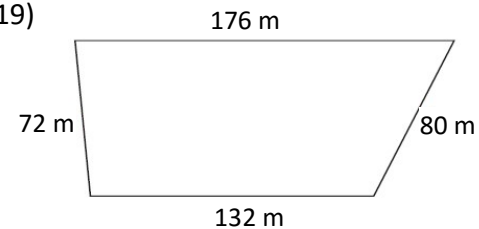
A carton that holds 500 mL of chocolate milk costs \$2.29.

Which of the following containers has a lower cost per mL?

- a 250 mL at \$1.29
- b 700 mL at \$3.09
- c 750 mL at \$3.59
- d 1000 mL at \$4.69

**ANSWERS**

- 1) d
- 2) d
- 3) c
- 4) a
- 5) b
- 6) c
- 7) c
- 8) b
- 9) b
- 10) c
- 11) 10 m (top and bottom) by 40 m (sides)
- 12) 240 minutes
- 13)  $18^\circ$
- 14) d
- 15)  $131.7 \text{ m}^2$
- 16) d
- 17) a
- 18) 6.7 litres
- 19)



- 20) b