



MIGHTY MINDS
Educational Consultants

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SAMPLE



Revision Activity

Numeracy
Band 5 6 7

- Algebra & Function

Resource code: 27053923



EXTENSION

Question 1

Solve the following expressions referring to the given variables.



If: $10x + 3y - 5z =$

$x = 3$

$y = 6$

$z = 8$

If: $5x - 25y - 10z =$

$x = -5$

$y = 12$

$z = 9$

If: $88x \times 2y + 3z =$

$x = 2$

$y = 56$

$z = 7$

If: $2 \times 3x$

$x = 11$

$y = 4$

$z = 90$

If: $7x - 18y \times 2z =$

$x = 89$

$y = 15$

$z = 100$

If: x

$x =$

If: $3z + 12x - 6y =$

$x = 16$

$y = -46$

$z = -7$

If: $3x + 2z \times 5y =$

$x = 2$

$y = -3$

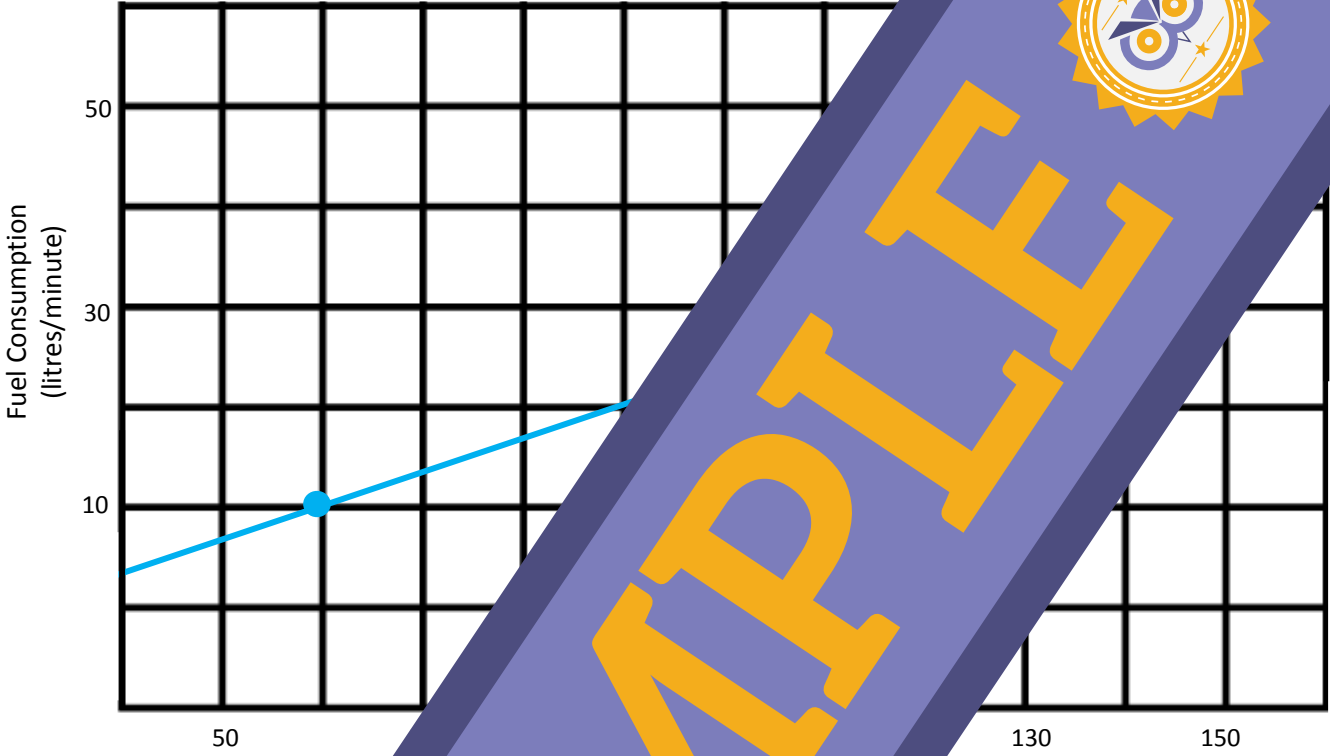
$z = 77$



Question 2

Answer the following questions based on the given information below.

Average Speed vs Fuel Consumption of the Holdone



What is the gradient of the line?

What is the equation of the line?

If the prototype is at 140km/minute?

If the fuel consumption is 25litres/minute, what would the speed be?



EXTENSION

ANSWERS

Question 1

Solve the following expressions referring to the given variables.

If: $10x + 3y - 5z =$
 $x = 3$
 $y = 6$
 $z = 8$

$$= (10 \times 3) + (3 \times 6) - (5 \times 8)$$

$$= 30 + 18 - 40$$

$$= 8$$

If: $5x - 25y - 10z =$
 $x = -5$
 $y = 12$
 $z = 9$

$$= (5 \times -5) - (25 \times 12) - (10 \times 9)$$

$$= -25 - 300 - 90$$

$$= -415$$

If: $88x \times 2y + 3z =$
 $x = 2$
 $y = 56$
 $z = 7$

$$= (88 \times 2) \times (2 \times 56) + 3 \times 7$$

$$= 176 \times 112 + 21$$

$$= 19\,733$$

If: $2 \times 3x$
 $x = 11$
 $y = 4$
 $z = 90$

$$= 2 \times 3 \times 11$$

$$= 66$$

If: x
 $x =$
 $y =$
 $z =$

$$=$$

If: $10x + 3y - 5z =$
 $x = 3$
 $y = 6$
 $z = 8$

$$= (10 \times 3) + (3 \times 6) - (5 \times 8)$$

$$= 30 + 18 - 40$$

$$= 8$$

If: $5x - 25y - 10z =$
 $x = -5$
 $y = 12$
 $z = 9$

$$= (5 \times -5) - (25 \times 12) - (10 \times 9)$$

$$= -25 - 300 - 90$$

$$= -415$$

If: $88x \times 2y + 3z =$
 $x = 2$
 $y = 56$
 $z = 7$

$$= (88 \times 2) \times (2 \times 56) + 3 \times 7$$

$$= 176 \times 112 + 21$$

$$= 19\,733$$

If: $2 \times 3x$
 $x = 11$
 $y = 4$
 $z = 90$

$$= 2 \times 3 \times 11$$

$$= 66$$

If: x
 $x =$
 $y =$
 $z =$

$$=$$

If: $7x - 18y \times 2z =$
 $x = 89$
 $y = 15$
 $z = 100$

$$= (7 \times 89) - (18 \times 15) \times (2 \times 100)$$

$$= 623 - 270 \times 200$$

$$= -53\,377$$

If: $3z + 12x - 6y =$
 $x = 16$
 $y = -46$
 $z = -7$

$$= (3 \times -7) + (12 \times 16) - (6 \times -46)$$

$$= -21 + 192 + 276$$

$$= 447$$

If: $3x + 2z \times 5y =$
 $x = 2$
 $y = -3$
 $z = 77$

$$= (3 \times 2) + (2 \times 77) \times (5 \times -3)$$

$$= 6 + 154 \times -15$$

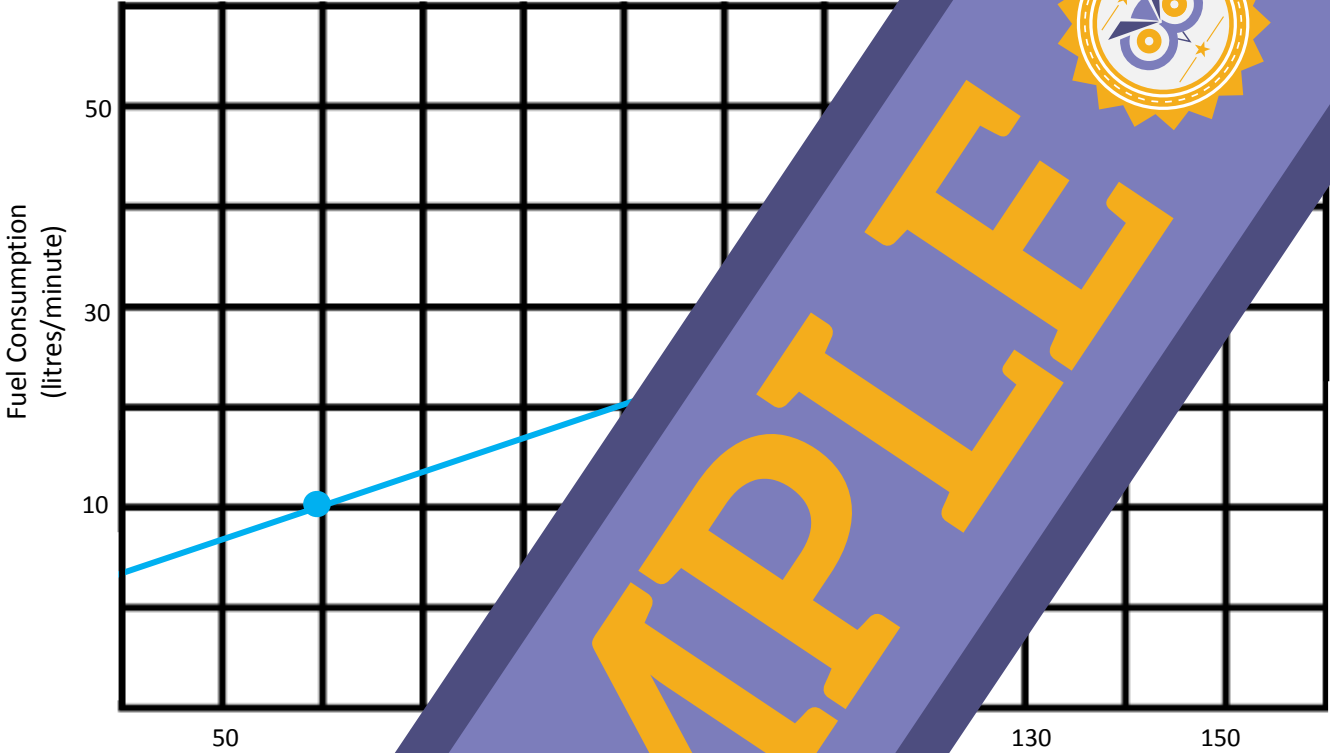
$$= -2304$$



Question 2

Answer the following questions based on the given information below.

Average Speed vs Fuel Consumption of the Holdone



SAMPLE

What is the gradient of the line?

$$\text{Gradient} = \frac{Y_2 - Y_1}{X_2 - X_1} = \frac{25 - 5}{150 - 50} = \frac{20}{100} = \frac{1}{5}$$

What is the equation of the line?

$$y = mx + c$$

Substitute the gradient $m = \frac{1}{5}$ and $c = 5$

$$\text{Therefore, } y = \frac{1}{5}x + 5$$

What is the fuel consumption of the prototype if it is at 140km/minute?

$$y = \frac{1}{5}(140) + 5 = 28 + 5 = 33 \text{ litres/minute}$$

If the fuel consumption is 25 litres/minute, what would the speed be?

$$\text{So } y = 25, 25 = \frac{1}{5}x + 5$$

$$x = (25 - 5) \times 5 = 20 \times 5 = 100 \text{ km/minute}$$

