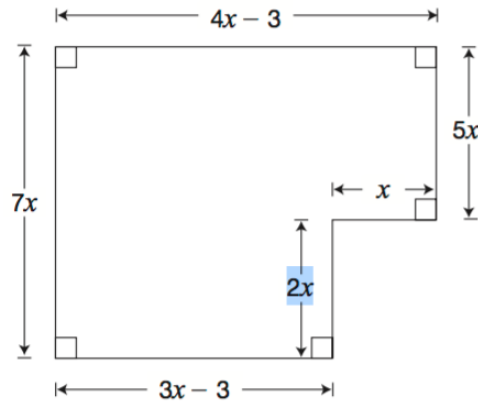


Floored Areas

The diagram of the floor shown below has algebraic expressions for the lengths of its sides, in metres.



Determine an unsimplified expression for the **total area** of the floor, A , in m^2 .

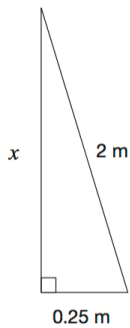
$A =$ _____

Simplify your expression fully. Show your work.

- If the total area equals $26x^2 + 43x + 77$, solve for x .
- Write a simplified expression for the Perimeter of the floor above.
- If the Perimeter of this floor is 236 m, what is the value of x ?

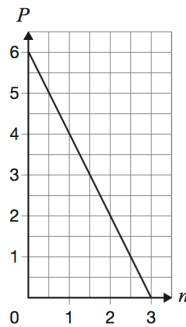
15 Information about four different linear relationships between C and n is shown below.

20 Which equation correctly uses the Pythagorean theorem to determine the value of x in the diagram?



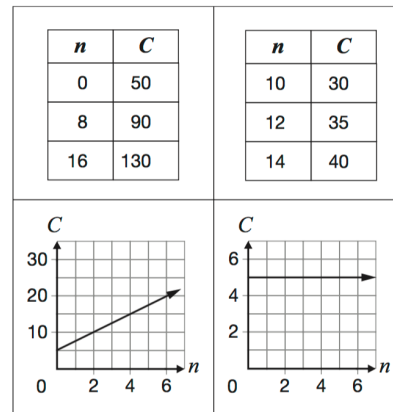
- a $x = \sqrt{2 + 0.25}$
- b $x = \sqrt{2 - 0.25}$
- c $x = \sqrt{2^2 + 0.25^2}$
- d $x = \sqrt{2^2 - 0.25^2}$

8 Consider the graph below.



Which of the following is an equation representing this graph?

- a $P = 2n + 6$
- b $P = \frac{1}{2}n + 6$
- c $P = -2n + 6$
- d $P = -\frac{1}{2}n + 6$



How many of the linear relationships have a rate of change of 5?

- a 4
- b 3
- c 2
- d 1



4 Which of the following is equivalent to

$$3(5x - 1) - 2(3x + 5)?$$

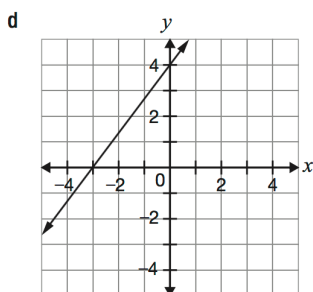
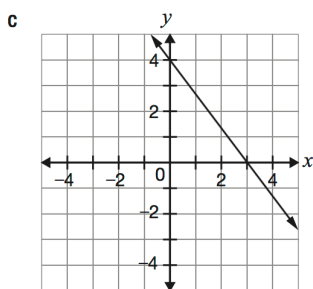
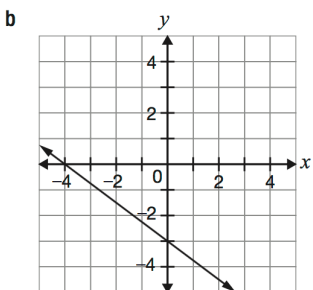
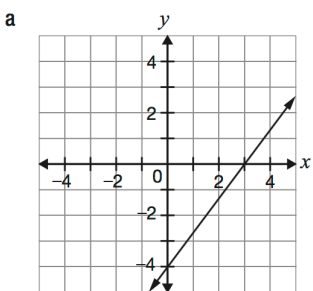
- a $9x - 13$
- b $9x + 4$
- c $21x - 13$
- d $21x + 4$

18 The total cost to repair a fridge, C , in dollars, can be represented by the equation $C = 60t + 30$, where t is the repair time in hours.

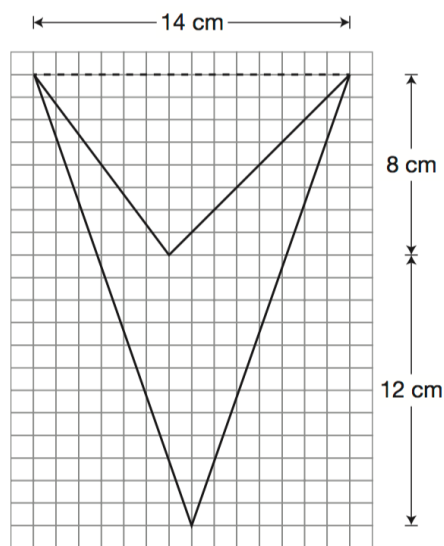
Which of the following statements is true about this relationship?

- a The hourly rate is \$90.
- b The fixed fee is \$90.
- c The hourly rate is \$60, and the fixed fee is \$30.
- d The hourly rate is \$30, and the fixed fee is \$60.

16 Which graph shows a line that is perpendicular to the line $y = \frac{4}{3}x - 4$?



19 What is the area of the shape represented below?



- a 28 cm^2
- b 56 cm^2
- c 84 cm^2
- d 168 cm^2

