



James is creating a password.  
He used 2 lowercase letters then 5 digits.

He does not repeat any letter or digit.

How many possible codes can James create?

$$26 \times 25 \times 10 \times 9 \times 8 \times 7 \times 6$$

$$= 19656000$$

$$\sqrt{45} + x\sqrt{20} = 7\sqrt{5}$$

Find x

$$\sqrt{9} \times \sqrt{5} = 3\sqrt{5}$$

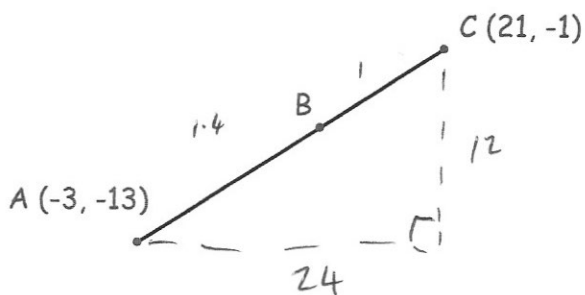
$$x \times \sqrt{4} \times \sqrt{5} = 2x\sqrt{5}$$

$$3\sqrt{5} + 2x\sqrt{5} = 7\sqrt{5}$$

$$3 + 2x = 7$$

$$2x = 4$$

$$x = 2$$



ABC is a straight line.

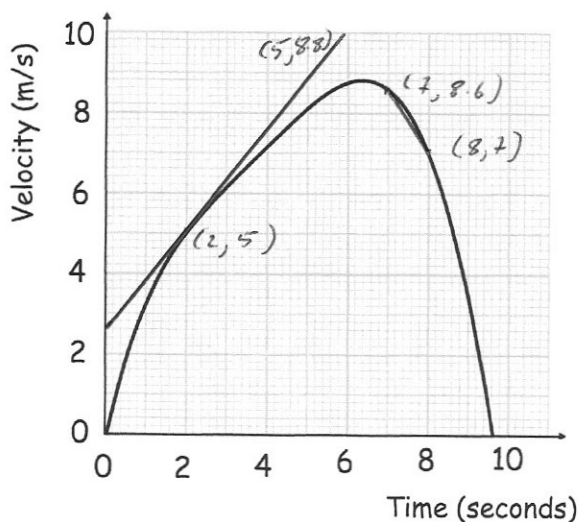
AB is 40% longer than BC.

$$7:5$$

Work out the coordinates of B.

$$(11, -6)$$

Here is a velocity-time graph for a journey.



Calculate an estimate of the acceleration at 2 seconds.

$$\frac{\text{rise}}{\text{run}} = \frac{3.8}{3} = 1.26 \text{ m/s}^2$$

Calculate an estimate of the average acceleration between 7 and 8 seconds.

$$\frac{\text{rise}}{\text{run}} = \frac{-1.6}{1} = -1.6 \text{ m/s}^2$$