



Given

$$2x^2 + cx + 13 \equiv d(x + 4)^2 + e$$

Find c, d and e

$$d(x^2 + 8x + 16) + e$$

$$dx^2 + \frac{8d}{16}x + \frac{16d}{32} + e \equiv 2x^2 + cx + 13$$

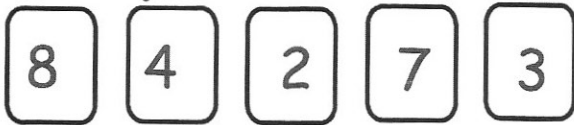
$$d = 2$$

$$c = 16$$

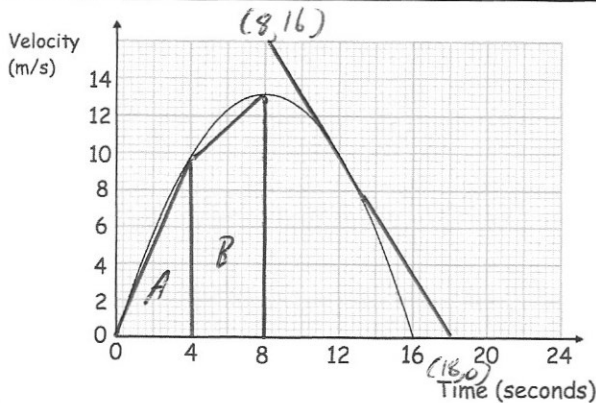
$$e = -19$$

Using all of the 5 cards below once, how many different odd numbers greater than 40000 can be made?

6 ways to arrange 3 cards



- 8 _ _ _ 7 6 possible
 - 8 _ _ _ 3 6 possible
 - 7 _ _ _ 3 6 possible
 - 4 _ _ _ 3 6 possible
 - 4 _ _ _ 7 6 possible
- 30**



Here is a velocity-time graph of a bicycle.

Estimate the distance travelled in the first 8 seconds.

$$A = \frac{1}{2} \times 4 \times 9.6 = 19.2 \text{ m}$$

$$B = \frac{1}{2} (9.6 + 13.2) \times 4 = 45.6 \text{ m}$$

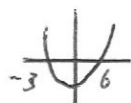
$$64.8 \text{ m}$$

Estimate the deceleration at 12 seconds.

$$\frac{\text{rise}}{\text{run}} = \frac{-16}{10} = -1.6$$

$$1.6 \text{ m/s}^2$$

The set of values for x that satisfies a quadratic inequality is $x < -3$ or $x > 6$



Write down a possible quadratic inequality.

$$(x + 3)(x - 6)$$

$$x^2 - 3x - 18 > 0$$