

7th February



Corbettmaths

Given

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

Find c, d and e

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

$$\frac{d}{1}x^2 + \frac{8d}{16}x + \frac{16d}{32} + e = 2x^2 + cx + 13$$

$$d = 2$$

$$c = 16$$

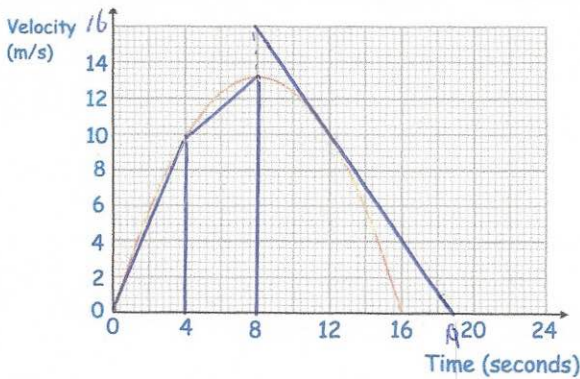
$$e = -19$$

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

beginning with

8	4	2	7	3
24 (12) odd	24 (12) odd	24 (6) odd	24 (6) odd	24 (6) odd

~~24~~
with 5 digits - 120 possible
(5 x 4 x 3 x 2 x 1)
24 begin with each digit of which 6 end in each of the other 4 digits.
8... odd (12) 7... odd (6) 30
4... odd (12)



Here is a velocity-time graph of a bicycle.

Estimate the distance travelled in the first 8 seconds.

$$\frac{1}{2}(4 \times 10) + \frac{1}{2}(10 + 13) \times 4$$

$$20 + 46 = \underline{\underline{66 \text{ m}}}$$

Estimate the deceleration at 12 seconds.

$$\frac{16}{11} = 1.4545... \text{ m/s}^2$$

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

$$(x - 6)(x + 3) > 0$$

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