

25th June



Corbettmaths

$$f(x) = kx + 7$$

$$g(x) = 3x - 2$$

Given  $gf(1) = 34$

Work out the value of  $k$

$$f(1) = k + 7$$

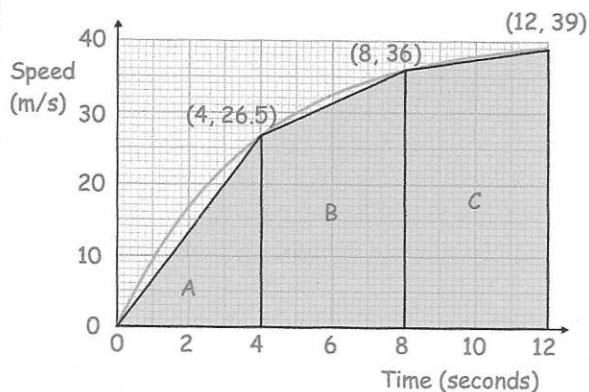
$$gf(1) = 3(k+7) - 2$$

$$= 3k + 19$$

$$3k + 19 = 34$$

$$3k = 15$$

$$k = 5$$



Using your answers to (a), (b) and (c) to find an estimate for the total distance travelled by the car.

$$(c) \frac{1}{2} (36 + 39) \times 4 = 150m$$

$$318m$$

Here is the speed-time graph for a car's journey.

$$(A) 53m$$

$$(B) \frac{1}{2} (26.5 + 36) \times 4 = 125m$$

Is your answer an overestimate or an underestimate for the distance that the car travelled?

Underestimate, the triangle & trapezium are all below the real line.

Solve

$$\frac{2}{2x-3} - \frac{3}{x+4} = 2$$

Give your solutions to 3 significant figures

$$\frac{2(x+4) - 3(2x-3)}{(2x+3)(x+4)} = 2$$

$$2x+8 - 6x+9 = 2(2x^2+5x-12)$$

$$-4x+17 = 4x^2+10x-24$$

$$4x^2 + 14x - 41 = 0$$

$$x = 1.90 \quad \text{or} \quad x = -5.40$$