Substituting into Formulae (A) Worded Problems

Section A

1) The formula for distance is given as distance = speed x time. Use the formula to find:

a. The distance, in km, of a journey which takes 3 hours at a speed of 30 km/h.

b. The distance, in km, of a journey which takes 5 hours at a speed of 120 km/h.

2) A formula for the perimeter of a rectangle is P = 2w + 2*l*, where w is the width and *l* is the length. Use the formula to find:

a. The perimeter of a rectangle with width 8 cm and length 12 cm.

b. The width of a rectangle with perimeter 42 cm and length 15 cm.

3) A taxi driver uses this formula to work out fares, F = £2.50 + £0.90m, where F is the fare, and m is the miles covered. Use the formula to work out:

a. The fare for a 9 mile journey.

b. The miles covered in a journey which cost £8.80.

4) The formula for the area of a triangle is $A = \frac{bh}{2}$, where b is the length of the base and h is the height. Use the formula to work out:

a. The area, in cm^2, of a triangle with base 6 cm and height 11 cm.

b. The height of a triangle with area 25 cm^2 and base 10 cm.

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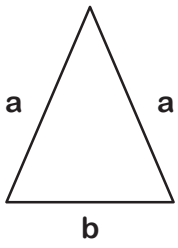
5) A formula for the volume of a cuboid is given as $V = ab^2$. Use the formula to find:

a. The volume of a cuboid with a = 5 cm and b = 4 cm.

b. The value of a when b is 2 cm and the volume is 24 cm^2.

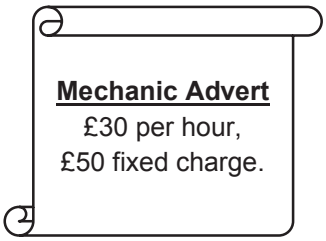
Section B *Create a formula for the following.*

1)



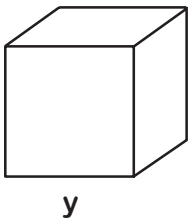
The perimeter of this triangle, where P is the perimeter.

2)



The amount, C, this mechanic charges per hour, h.

3)



The surface area of this cube, where S is the surface area.

Use the formula to work out the surface area of the following cubes.