



Write down the value of

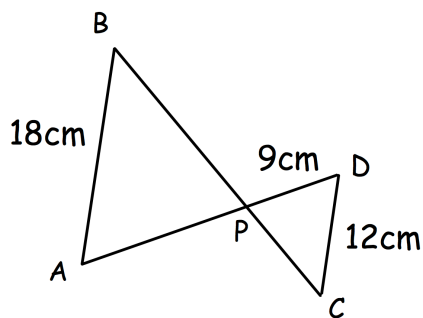
$$64^{\frac{2}{3}}$$

Write down the value of

$$7^{-3}$$

Carl is making a drink by mixing orange juice and lemonade in the ratio 3 : 5  
Carl has 57.5 litres of lemonade and 36 litres of orange juice.

What is the maximum amount of the drink that Carl can make?



Lines AB and CD are parallel  
P is a point of AD, such that PD = 9cm

Find the length of AD.

Find the equation of the straight line through (0, 8) which is perpendicular to the line  $y = 4x + 1$

Simplify

$$\frac{x^2 + 4x - 45}{x^2 + 10x + 9}$$