24th January **Higher Plus 5-a-day**

Corbettmaths

$$f(x) = \frac{ax + 3}{4}$$

Given $f(7) = 6$

Find a

$f(7) = \frac{7a+3}{4} = 6$

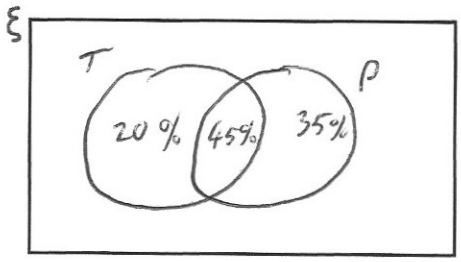
$7a + 3 = 24$

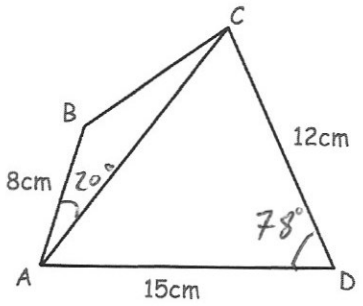
$7a = 21$

$a = 3$

A PE test has two sections, theory and practical.
Everyone in a class who took the PE test passed at least one section.
65% passed the theory section and 80% passed the practical section.

Show this on a Venn diagram





ABCD is a quadrilateral.

AB = 8cm, AD = 15cm and CD = 12cm.
Angle ADC = 78° and angle BAC = 20°

Calculate the length of AC.

$AC^2 = 15^2 + 12^2 - 2 \times 15 \times 12 \times \cos 78$

$AC^2 = 294.15...$

$AC = 17.15\text{cm}$

Calculate the area of triangle ABC.

$\frac{1}{2} \times a \times b \times \sin C$

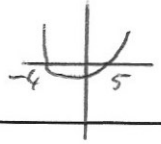
$\frac{1}{2} \times 8 \times 17.15... \times \sin 20$

$= 23.46375\text{cm}^2$

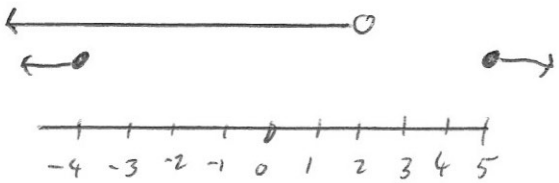
Find the set of values of x for which

both $9x - 2 < 18 - x$ $10x < 20$, $x < 2$

and $x^2 - x \geq 20$ $x^2 - x - 20 \geq 0$, $(x-5)(x+4)$



$x \leq -5$ or $x \geq 5$



$x \leq -4$