

23rd September



Corbettmaths

Write as a single fraction and simplify if possible

$$\frac{14}{x^2 - 5x + 6} \div \frac{7}{x^2 + 3x - 10}$$

$$\frac{14}{(x-3)(x-2)} \div \frac{7}{(x+5)(x-2)}$$

$$\frac{2 \cancel{7}}{(x-3)\cancel{(x-2)}} \times \frac{(x+5)\cancel{(x-2)}}{\cancel{7}}$$

$$\frac{2(x+5)}{x-3}$$

Write in the form  $(x + a)^2 + b$

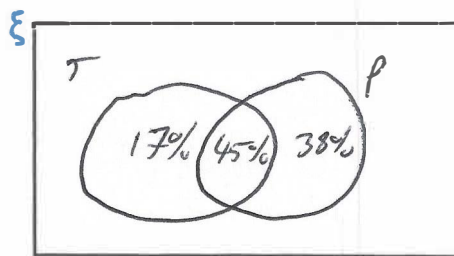
$$x^2 - 100x - 25$$

$$(x - 50)^2 - 2500 - 25$$

$$(x - 10)^2 - 2525$$

A PE test has two sections, theory and practical. Everyone in a class who took the PE test passed at least one section. 62% passes the theory section and 83% passed the practical section.

Represent this information on a Venn diagram



A student is selected at random.  
Work out the probability that this person  
(a) passed the theory section, given they passed the practical section.

$$\frac{45}{83}$$

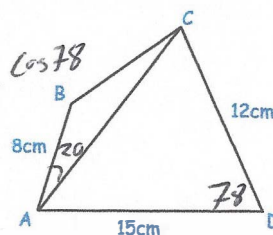
(b) passed the practical section, given they passed only one section.

$$\frac{38}{55}$$

Calculate the area of triangle ABC.

Cosine rule  $AC^2 = 15^2 + 12^2 - 2 \times 12 \times 15 \times \cos 78$   
 $AC = 17.151$

$\frac{1}{2} ab \sin C$   
 $\frac{1}{2} \times 8 \times 17.151 \times \sin 20$   
 $23.464 \text{ cm}^2$



Angle ADC = 78° and angle BAC = 20°