Name: _____ 5-a-day Higher Plus

27th June

Corbettmaths

Evaluate

$8^{-\frac{2}{3}}$

$\frac{1}{4}$

Factorise

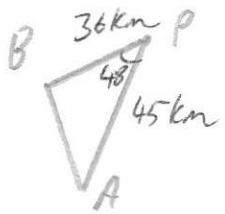
$20x^2 - 23x + 6$

$(5x - 2)(4x - 3)$

Two ships, A and B, leave a port at 10:30

Ship A travels on a bearing of 196° at a speed of 30km/h.
Ship B travels on a bearing of 244° at a speed of 24km/h.

Work out the distance between A and B at 14:00



$AB^2 = 36^2 + 45^2 - 2 \times 36 \times 45 \times \cos 48$

$AB^2 = 1153.016835$

$AB = 33.956$ km

A bag contains 14 sweets.
8 sweets are red.
4 sweets are yellow.
2 sweets are green. Not possible
Three sweets are taken from the bag without replacement.

Work out the probability that the three sweets are the same colour.

$P(RRR) = \frac{8}{14} \times \frac{7}{13} \times \frac{6}{12} = \frac{2}{13}$

$P(YYY) = \frac{4}{14} \times \frac{3}{13} \times \frac{2}{12} = \frac{1}{91}$

$\frac{2}{13} + \frac{1}{91} = \frac{15}{91}$