



Work out

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

$$\frac{1}{4}$$

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. 3.5×30

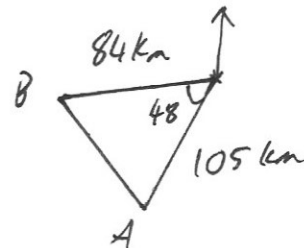
Ship B travels on a bearing of 244° at a speed of 24km/h. 3.5×24

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

$$AB^2 = 84^2 + 105^2 - 2 \times 84 \times 105 \times \cos 48^\circ$$

$$AB^2 = 6277.536 \dots$$

$$AB = 79.231 \text{ km}$$



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.

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

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

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