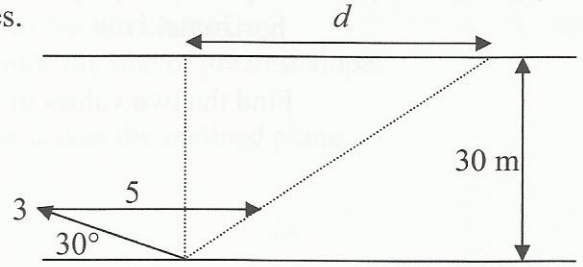
2007 2 **(b)** A man can swim at 3 m/s in still water.
He swims across a river of width 30 metres.
He sets out at an angle of 30° to the bank.
The river flows with a constant speed of
5 m/s parallel to the straight banks.
In crossing the river he is carried
downstream a distance d metres.



Find the value of d correct to two places of decimals.

$$\text{Time to cross} = \frac{30}{3\sin 30}$$

$$= 20 \text{ seconds}$$

$$d = (5 - 3\cos 30) \times 20$$

$$= (2.402) \times 20$$

$$= 48.04 \text{ metres}$$

5
5
5
5 | 20