

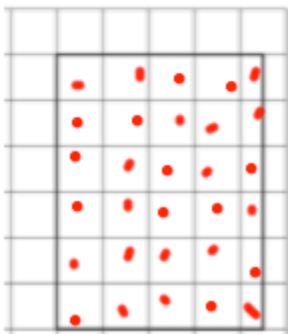
January 13th

5-a-day

Numeracy

Work out  $13 \times 9$

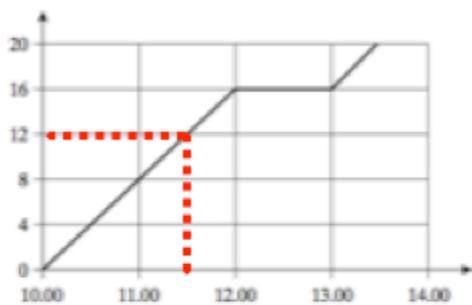
$$\begin{array}{r} 13 \\ \times 9 \\ \hline 27 \\ 90 \\ \hline 117 \end{array}$$



Shown is a rectangle on a centimetre grid.

Find the area

$$27 \text{ cm}^2$$



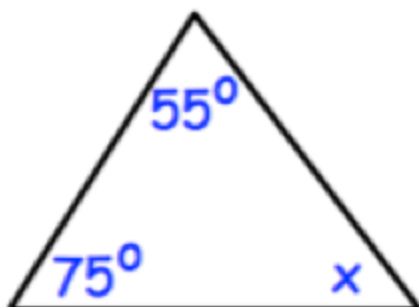
The graph shows the distance from home at each time.

How far was Nicky from home at 11:30?

$$\begin{array}{l} 12 \text{ miles} \\ 12 \text{ km} \end{array} \quad \text{units?..}$$

What happened between 12:00 and 13:00

rested  
stopped etc



Find x

$$\begin{array}{r} 55 \\ 75 \\ \hline 130 \end{array}$$

$$\begin{array}{r} 180 \\ 130 \\ \hline 50^\circ \end{array}$$

$$\frac{3}{4} + \frac{5}{7}$$

$$\frac{21}{28} + \frac{20}{28} = \frac{41}{28}$$

$$1\frac{13}{28}$$

Mr James gives £500 to his children Ally, Barry and Cat in the ratio 2:3:5.

How much do they each receive?

$$2+3+5=10$$

$$500 \div 10 = 50$$

$$2 \times 50 = \pounds 100$$

$$3 \times 50 = \pounds 150$$

$$5 \times 50 = \pounds 250$$

Increase £620 by 10%

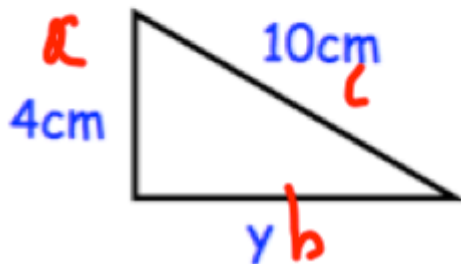
$$\pounds 682$$

Decrease £8 by 5%

$$10\% \quad 0.8$$

$$5\% \quad 0.4$$

$$\pounds 7.60$$



Calculate the length of y for this right-angled triangle

$$a^2 + b^2 = c^2$$

$$4^2 + y^2 = 10^2 \quad y^2 = 84$$

$$16 + y^2 = 100 \quad y = 9.17$$

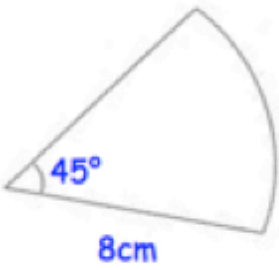
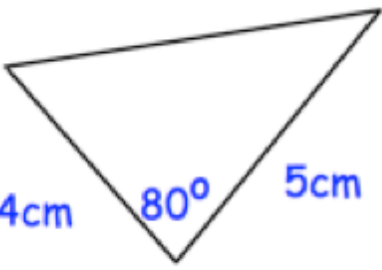
Marks wage was £120 a week  
This increased to £144 a week

What was the percentage increase?

$$\frac{\text{change}}{\text{original}} \times 100$$

$$\frac{24}{120} \times 100$$

$$20\%$$

January 13	5-a-day	Higher
<p>Expand and simplify</p> <p><math>(y + 3)(y - 5)</math></p>	$y^2 - 2y - 15$	
 <p>Find the area of the sector.</p>	$\frac{45}{360} \times \pi \times 8^2$ $= 25.13 \text{ cm}^2 \text{ or } 8\pi \text{ cm}^2$	
<p>A camera is reduced in a sale by 12%. In the sale it costs £123.20</p> <p>Work out the normal price of the camera.</p>	$88\% = \pounds 123.20$ $1\% = \pounds 1.40$ $100\% = \pounds 140$	
	<p>Work out the area of the triangle.</p> $\frac{1}{2} ab \sin C$ $\frac{1}{2} \times 4 \times 5 \times \sin 80$ $10 \sin 80 = 9.848 \text{ cm}^2$	
<p>A car travels at 50mph to the nearest 10mph.</p> <p>It travels 220 miles to the nearest 10miles.</p> <p>What is the <span style="border: 1px solid blue; padding: 2px;">shortest</span> possible time taken for this journey?</p> <p style="text-align: right;"><math>s \propto t</math></p>	$t = \frac{d}{s} \quad \frac{\text{min}}{\text{max}}$ $\frac{215}{55} = 3.91 \text{ hours}$	