Name: _____ 5-a-day Higher Plus

7th September

Corbettmaths

The point A has coordinates $(-12, -7)$ and the point B has coordinates $(-8, 1)$

Find the equation of the line parallel to AB and passing through (2, 5)

$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{1 - -7}{-8 - -12}$

$= \frac{8}{4} = 2$

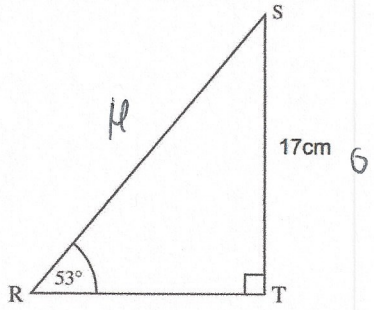
$y = 2x + 1$

Angle SRT is 53°, to the nearest degree.
ST is 17cm to the nearest centimetre.

Work out the upper bound for the length of RS.

Max RS $= \frac{17.5}{\sin 52.5}$

$= 22.058\text{cm}$



5° R

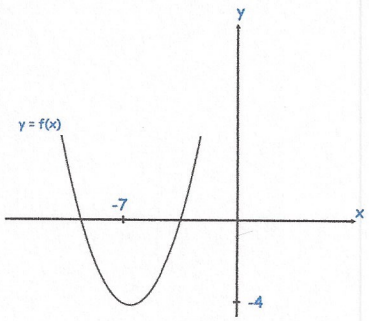
6

y = f(x) has a minimum point at (-7, -4).

The graph of y = f(x) + a has a minimum point at (-7, 0), where a is a constant.

Write down the value of a.

4



Make y the subject of

$$\frac{8}{x} = \frac{3}{y} + \frac{2}{5}$$

$\frac{8}{x} = \frac{15}{5y} + \frac{2y}{5y}$

$\frac{8}{x} \times 5y = 15 + 2y$

$40y = 15x + 2xy$

$40y - 2xy = 15x$

$y(40 - 2x) = 15x$

$y = \frac{15x}{40 - 2x}$

Sketch $x^2 + y^2 = 9$

$r = \sqrt{9} = 3$