

Lighthouse 9 (Checkpoint 4)

1. Complete the trig value table

	60	30	45
tan			
cos			
sin			

2. Rationalise the denominator $\frac{3}{2-\sqrt{2}}$

3. $a = 1100$ is given correct to two sig figs.
 $b = 930$ given correct to three sig figs
 For $a - b$ what is the
 a) Upper bound? b) Lower bound?

4. Calculate (leave your answer in standard form)

$$(3 \times 10^8) \div (5 \times 10^{-3}) + (6 \times 10^{-3}) \times (4 \times 10^{15})$$

5. What decimal multiplier could be used to find a 23% decrease over two years of compound depreciation?

6. What is the perimeter of the sector of a circle with radius of 11 cm and angle 15° ?
 Give your answer in terms of π

7. Find the coordinates where these graphs intersect:
 $(x - 3)^2 + 1 = y$ $y = 5x - 14$

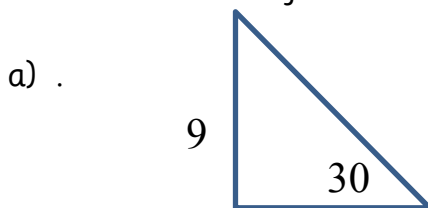
8. $Q(7, 7)$ and $R(17, 37)$ are the ends of a line segment
 Find the equation of the line, the length of the line and the equation of the perpendicular bisector.

9. Factorise and solve

a) $14a^2 + 13a + 3 = 0$

b) $16a^2 - 81 = 0$

10. Find the area of the triangle



x	f	fd
$0 \leq x \leq 10$	12	
$10 \leq x \leq 15$		7
$15 \leq x \leq ?$	26	13

11. Find the missing values for the histogram.

12. Prove that a square, a pentagon and a hexagon (all regular) do not tessellate