

Lighthouse 9 (Checkpoint 5)

1. Complete the trig value table

	45	30	60
sin			
tan			
cos			

2. Rationalise the denominator $\frac{2}{1-\sqrt{3}}$

3. $a = 220$ is given correct to two sig figs.
 $b = 200$ 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)

$$(3 \times 10^4) \div (2 \times 10^{-2}) + (4 \times 10^9) \times (7 \times 10^{-5})$$

5. What decimal multiplier could be used to find a 14% decrease over two years of compound depreciation?

6. What is the perimeter of the sector of a circle with radius of 9 cm and angle 60° ?
 Give your answer in terms of π

7. Find the coordinates where these graphs intersect:
 $x^2 + 3 = y$ $x^2 + y^2 = 17$ (Note: There is only one real solution – the other is imaginary)

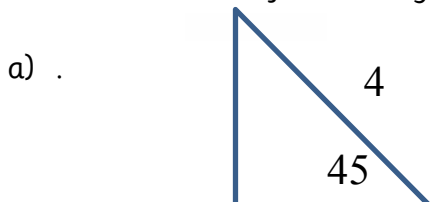
8. Q(3, 8) and R(8, 20) are the ends of a line segment
 Find the equation of the line, the length of the line and the equation of the perpendicular bisector.

9. Factorise and solve

a) $6a^2 + 19a + 10 = 0$

b) $16a^2 - 49 = 0$

10. Find the area of the triangle



x	f	fd
$0 \leq x \leq 10$		5
$10 \leq x \leq 15$	6.4	
$15 \leq x \leq ?$	27	4.5

11. Find the missing values for the histogram.

12. Prove that a square and 2 regular pentagons do not tessellate.