Lighthouse 8 (Checkpoint 1)

1. Complete and simplify times table surd grid

×	√8	√3	√5
√5			
√3			
√18			

2. Rationalise the surd $\frac{3}{\sqrt{5}}$

3. a = 120 cm is given correct to two sig figs.
   What is the:
   a) Upper bound? b) Lower bound?

4. Calculate the answer, give your answer in denary
   a) $(9 \times 10^3) + (8 \times 10^5)$ b) $(9 \times 10^3) \times (8 \times 10^5)$ c) $(6 \times 10^3) \div (8 \times 10^5)$

5. A sphere has a volume of 36 π cm^3. Calculate the radius of the sphere.

6. What is 0. $\dot{3}\dot{2}$ as a fraction?

7. Solve $y = 3x + 2$
   $x^2 + y^2 = 26$

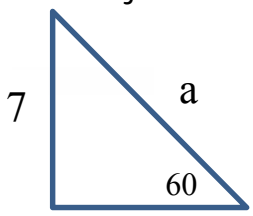
8. Show that the lines AB and CD are perpendicular.
   A(3, 7) & B(5, 11) C(4, 3) & D(-4, 7)

9. Factorise and solve

a) $2a^2 + 3a - 2 = 0$ b) $4a^2 - 9 = 0$

10. Find the value of a in this triangle, rationalise your answer.

a) .



x	f	fd
0 ≤ x ≤ 10	3	
10 ≤ x ≤ 15		6
15 ≤ x ≤ 25	40	

11. Find the missing values for the histogram.

12. The probability of Ralph being late is 0.3. What is the probability of Ralph being **late at least 2 days** over a 5 day period?