

Lighthouse 7 (Checkpoint 5)

1. Complete this times table grid

X	$-3a^2$	$6bc$	$8cd$
$7ed$			
$-9fa$			
$5ad$			

2. Simplify $42t^5a^2 \div 6t^2a$

3. What is the upper bound of 0.0043 if it has been rounded to 2 s.f ?

4. Write as a normal number

a) $(1.3 \times 10^2) \times (4 \times 10^6)$

b) $(7 \times 10^7) \div (2 \times 10^3)$



5. I invest £440 at 15% compound interest for two years. Calculate the total in the account at the end of the two years.

6. What is the value of a if the area of the rectangle is 190 cm^2 ?

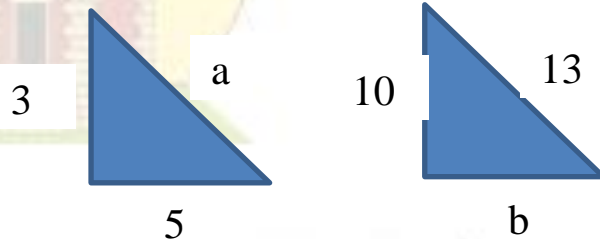
7. A regular polygon's interior angles sum to 2520 degrees. Two are drawn so there is a common vertex. What angle is left around the vertex?

8. $Q(2, 10)$ and $R(-6, -22)$ are the ends of a line segment

a) Find the midpoint of QR

b) Find the gradient of QR

9. Solve $4x + 3y = 34$
 $y = 5x - 33$



10. Find the missing side lengths leave your answer as a surd (e.g. $\sqrt{51}$)

11. There are 7 reds and 4 green counters in a bag. I take one counter, **do not replace it**, and then take another. What is the probability the two counters are the same colour?

12. Factorise a) $5a^2 + 13a - 6$

b) $16a^2 - 49$