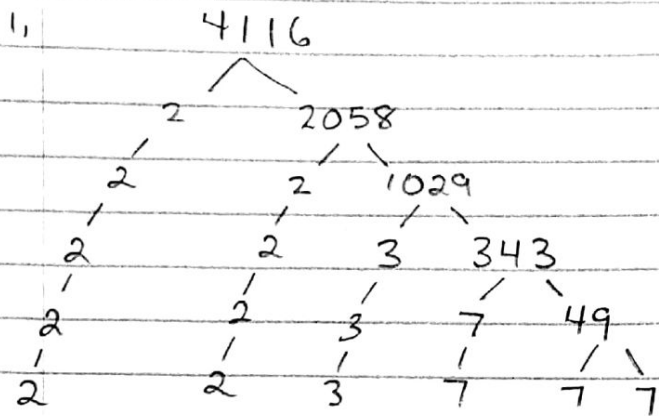
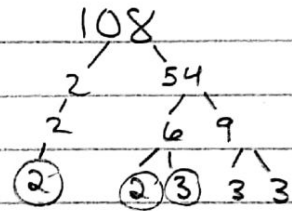
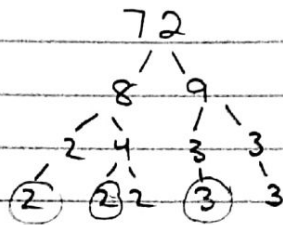
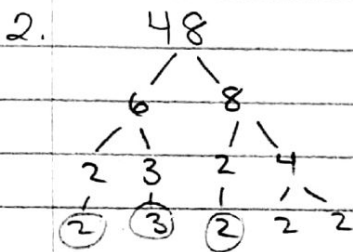


Chapter 3 - Exam Review



$$2^2 \cdot 3 \cdot 7^3$$



"Go fish" $GCF = 2 \cdot 2 \cdot 3$
 $= 12$

3. $48 = 2^4 \cdot 3$

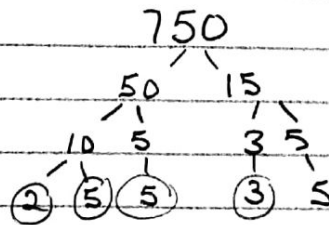
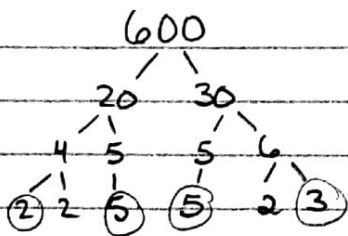
$72 = 2^3 \cdot 3^2$

$108 = 2^2 \cdot 3^3$

$LCM = 2^4 \cdot 3^3$

$= 432$

4. $600 \text{ m} + 750 \text{ m} \rightarrow GCF$



"Go fish" $GCF = 2 \cdot 5 \cdot 5 \cdot 3$
 $= 150$

$$12. (f + 5g)(2f - 5g + 7) = 2f^2 - 5gf + 7f + 10gf - 25g^2 + 35g$$

$$= 2f^2 + 5gf + 7f - 25g^2 + 35g$$

$$13. \begin{array}{|c|} \hline 8x-4y \\ \hline \end{array} \begin{array}{|c|} \hline x+5y \\ \hline \end{array}$$

$$A = l \cdot w$$

$$= (8x-4y)(x+5y)$$

$$= 8x^2 + 40xy - 4xy - 20y^2$$

$$= 8x^2 + 36xy - 20y^2$$

$$14. \begin{array}{|c|} \hline \square \\ \hline \end{array} \begin{array}{|c|} \hline \square \\ \hline \end{array} \begin{array}{|c|} \hline \square \\ \hline \end{array} \begin{array}{|c|} \hline \square \\ \hline \end{array} \begin{array}{|c|} \hline \square \\ \hline \end{array} \begin{array}{|c|} \hline \square \\ \hline \end{array}$$

$$(2x+5)(x+1) \quad 5 \text{ 1-tiles}$$

$$2x^2 + 7x + 5$$

$$15. 22n^2 + n - 5$$

$$ac = -110$$

$$-10 \times 11 = -110$$

$$-10 + 11 = +1$$

$$22n^2 + 11n - 10n - 5$$

$$11n(2n+1) - 5(2n+1)$$

$$(2n+1)(11n-5)$$

$$b) 14z^2 - 49z + 35$$

$$ac = 10$$

$$b = -7$$

$$7(2z^2 - 7z + 5)$$

$$(-2) \cdot (-5)$$

$$(-2) + (-5)$$

$$7[(2z^2 - 2z - 5z + 5)]$$

$$7[2z(z-1) - 5(z-1)]$$

$$7(z-1)(2z-5)$$

$$c) 4x^2 + 12x + 9$$

$$(2x+3)^2$$

$$d) 49s^2 - 64t^2$$

$$(7s+8t)(7s-8t)$$

$$e) a^2 + 10a + 25$$

$$(a+5)^2$$

$$16. 90y^2 + 77y - 52$$

$$ac = -4690$$

$$b = 77$$

$$117 \cdot -40$$

$$117 + (-40)$$

$$90y^2 + 117y - 40y - 52$$

$$9y(10y+13) - 4(10y+13)$$

$$(9y-4)(10y+13)$$

error was that they ignored the negative 40. Factored out +4 not -4

$$\begin{aligned}
 17. \quad & (2x+4)(2x+3) - [(x+8)(x-2)] \\
 & = (4x^2 + 14x + 12) - (x^2 + 6x - 16) \\
 & = 4x^2 + 14x + 12 - x^2 - 6x + 16 \\
 & = 3x^2 + 8x + 28
 \end{aligned}$$

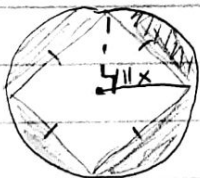
b) when $x = 15 \text{ cm}$

$$\begin{aligned}
 A & = 3(15)^2 + 8(15) + 28 \\
 & = 823 \text{ cm}^2
 \end{aligned}$$

$$\begin{aligned}
 18. \quad A & = 36m^2 + 84mn + 49n^2 \\
 & = (6m + 7n)(6m + 7n)
 \end{aligned}$$

$$\begin{aligned}
 P & = 4s \\
 & = 4(6m + 7n) \\
 & = 24m + 28n
 \end{aligned}$$

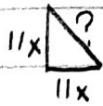
19.



$$r = 11x$$

$$A_{\text{circle}} = \pi r^2$$

$$A_{\text{square}} = l \cdot w$$



$$a^2 + b^2 = c^2$$

$$\sqrt{(11x)^2 + (11x)^2} = \sqrt{c^2}$$

$$\sqrt{121x^2 + 121x^2} = \sqrt{c^2}$$

$$\sqrt{242x^2} = c$$

Shaded area = Area of circle - area of square

$$\begin{aligned}
 & \pi r^2 - l \cdot w \\
 & \pi (11x)^2 - (\sqrt{242x^2} \cdot \sqrt{242x^2}) \\
 & 121\pi x^2 - 242x^2 \\
 & = 138.13x^2
 \end{aligned}$$