

1a. $2 \cdot 3 \cdot 7^2 \cdot 11$

1b. $3^2 \cdot 19 \cdot 29$

2a. GCD = 21 and LCM = 58,212

2b. GCD = $2 \cdot 3 = 6$ and LCM = $2^3 \cdot 3^3 \cdot 5^2 \cdot 7 = 37,800$

3. We find the least common multiple of the three numbers to arrive at 2,590,770 days.

4a. $29/9$

4b. $463/66$

5a. Irrational.

5b. Rational: 12112111211212 repeats.

5c. Rational: it terminates.

6. Use the Distributive Property to transform $10y + 4(3 + 5y)$ to $10y + (12 + 20y)$; then, use the Commutative Property of Addition to get $10y + (20y + 12)$; next, use the Associative Property of Addition to obtain $(10y + 20y) + 12$, which immediately yields $30y + 12$.

7a. $x = 3$.

7b. We can multiply both sides of equation by 15 to get $5y + 60 = 6y - 90$, which yields $y = 150$.

8. Let x be total sales, so we obtain the equation $400 + 0.07x = 790$. The solution to this equation, rounded to the nearest penny, is \$5571.43.

9. If w is the width, then $w + 3$ is the length, and we get $2w + 2(w + 3) = 54$. Solution is $w = 12$, so the perimeter will be 12 feet by 15 feet.

10.

