

# Mr. Ward Answer Key

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$$\begin{array}{c}
 2. \quad 20 \\
 \swarrow \quad \searrow \\
 2 \quad 10 \\
 \quad \swarrow \quad \searrow \\
 \quad 2 \quad 5 \\
 \hline
 = 2 \cdot 2 \cdot 5
 \end{array}$$

$$\begin{array}{c}
 3. \quad 36 \\
 \swarrow \quad \searrow \\
 2 \quad 18 \\
 \quad \swarrow \quad \searrow \\
 \quad 2 \quad 9 \\
 \quad \quad \swarrow \quad \searrow \\
 \quad \quad 3 \quad 3 \\
 \hline
 = 2 \cdot 2 \cdot 3 \cdot 3
 \end{array}$$

$$\begin{array}{c}
 4. \quad 27 \\
 \swarrow \quad \searrow \\
 3 \quad 9 \\
 \quad \swarrow \quad \searrow \\
 \quad 3 \quad 3 \\
 \hline
 = 3 \cdot 3 \cdot 3
 \end{array}$$

$$\begin{array}{c}
 5. \quad 54 \\
 \swarrow \quad \searrow \\
 2 \quad 27 \\
 \quad \swarrow \quad \searrow \\
 \quad 3 \quad 9 \\
 \quad \quad \swarrow \quad \searrow \\
 \quad \quad 3 \quad 3 \\
 \hline
 = 2 \cdot 3 \cdot 3 \cdot 3
 \end{array}$$

$$\begin{array}{c}
 6. \quad 96 \\
 \swarrow \quad \searrow \\
 2 \quad 48 \\
 \quad \swarrow \quad \searrow \\
 \quad 2 \quad 24 \\
 \quad \quad \swarrow \quad \searrow \\
 \quad \quad 2 \quad 12 \\
 \quad \quad \quad \swarrow \quad \searrow \\
 \quad \quad \quad 2 \quad 6 \\
 \quad \quad \quad \quad \swarrow \quad \searrow \\
 \quad \quad \quad \quad 2 \quad 3 \\
 \hline
 = 2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 \cdot 3
 \end{array}$$

$$\begin{array}{c}
 7. \quad 7 \\
 \swarrow \quad \searrow \\
 1 \quad 7 \\
 \hline
 = 1 \cdot 7
 \end{array}$$

$$\begin{array}{c}
 8. \quad 100 \\
 \swarrow \quad \searrow \\
 2 \quad 50 \\
 \quad \swarrow \quad \searrow \\
 \quad 2 \quad 25 \\
 \quad \quad \swarrow \quad \searrow \\
 \quad \quad 5 \quad 5 \\
 \hline
 = 2 \cdot 2 \cdot 5 \cdot 5
 \end{array}$$

$$\begin{array}{c}
 9. \quad 75 \\
 \swarrow \quad \searrow \\
 3 \quad 25 \\
 \quad \swarrow \quad \searrow \\
 \quad 5 \quad 5 \\
 \hline
 = 3 \cdot 5 \cdot 5
 \end{array}$$

$$\begin{array}{l}
 13. \quad 6x^2 = 2 \cdot 3 \cdot x \cdot x \\
 \quad \quad 5x^2 = 5 \cdot x \cdot x \\
 \hline
 \text{GCF} = x^2
 \end{array}$$

$$\begin{array}{l}
 14. \quad 15y^3 = 3 \cdot 5 \cdot y \cdot y \cdot y \\
 \quad \quad -20y = -2 \cdot 2 \cdot 5 \cdot y \\
 \hline
 \text{GCF} = 5y
 \end{array}$$

$$\begin{array}{l}
 15. \quad 13q^4 = 1 \cdot 13 \cdot q \cdot q \cdot q \cdot q \\
 \quad \quad 2p^2 = 2 \cdot p \cdot p \\
 \hline
 \text{GCF} = 1
 \end{array}$$

$$\begin{array}{c}
 17. \quad 18 \\
 \swarrow \quad \searrow \\
 2 \quad 9 \\
 \quad \swarrow \quad \searrow \\
 \quad 3 \quad 3 \\
 \hline
 = 2 \cdot 3 \cdot 3
 \end{array}$$

$$\begin{array}{c}
 18. \quad 64 \\
 \swarrow \quad \searrow \\
 2 \quad 32 \\
 \quad \swarrow \quad \searrow \\
 \quad 2 \quad 16 \\
 \quad \quad \swarrow \quad \searrow \\
 \quad \quad 2 \quad 8 \\
 \quad \quad \quad \swarrow \quad \searrow \\
 \quad \quad \quad 2 \quad 4 \\
 \quad \quad \quad \quad \swarrow \quad \searrow \\
 \quad \quad \quad \quad 2 \quad 2 \\
 \hline
 = 2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 \cdot 2
 \end{array}$$

$$\begin{array}{c}
 19. \quad 12 \\
 \swarrow \quad \searrow \\
 2 \quad 6 \\
 \quad \swarrow \quad \searrow \\
 \quad 2 \quad 3 \\
 \hline
 = 2 \cdot 2 \cdot 3
 \end{array}$$

$$\begin{array}{c}
 20. \quad 150 \\
 \swarrow \quad \searrow \\
 2 \quad 75 \\
 \quad \swarrow \quad \searrow \\
 \quad 3 \quad 25 \\
 \quad \quad \swarrow \quad \searrow \\
 \quad \quad 5 \quad 5 \\
 \hline
 = 2 \cdot 3 \cdot 5 \cdot 5
 \end{array}$$

$$\begin{array}{c}
 21. \quad 17 \\
 \swarrow \quad \searrow \\
 1 \quad 17 \\
 \hline
 = 1 \cdot 17
 \end{array}$$

$$\begin{array}{c}
 22. \quad 226 \\
 \swarrow \quad \searrow \\
 2 \quad 113 \\
 \hline
 = 2 \cdot 113
 \end{array}$$

$$\begin{array}{c}
 23. \quad 49 \\
 \swarrow \quad \searrow \\
 7 \quad 7 \\
 \hline
 = 7 \cdot 7
 \end{array}$$

$$\begin{array}{c}
 24. \quad 63 \\
 \swarrow \quad \searrow \\
 3 \quad 21 \\
 \quad \swarrow \quad \searrow \\
 \quad 3 \quad 7 \\
 \hline
 = 3 \cdot 3 \cdot 7
 \end{array}$$



28.  $8a^2 = 2 \cdot 2 \cdot 2 \cdot a \cdot a$

$11 = 1 \cdot 11$

$GCF = 1$

29.  $9s = 3 \cdot 3 \cdot s$

$63s^3 = 3 \cdot 3 \cdot 7 \cdot s \cdot s \cdot s$

$GCF = 9s$

30.  $-64n^2 = -2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 \cdot n \cdot n$

$24n^2 = 2 \cdot 2 \cdot 2 \cdot 3 \cdot n \cdot n$

$GCF = 8n^2$

32.  $5t$

34.  $11$

33.  $4x^2$

35.  $2n$