

## Posttest Solutions

These posttest solutions have been provided to help students understand how to do those posttest problems answered incorrectly. If looking at the solution does not make the math required to do the problem clear, study the learning unit that matches the problem's number.

## Posttest Solutions

Please note that posttest solutions are numbered to match learning unit numbers.

1) Which number is fifteen thousand four hundred sixty?

A) 15046    B) 15406

C) 15460    D) 14064

Answer C

2) Round 68,559 to the nearest thousand.

69,000

3A)  $96 + 673 + 9 =$

$$\begin{array}{r} 96 \\ 673 \\ + \quad 9 \\ \hline 778 \end{array}$$

3B)  $704 - 38 =$

$$\begin{array}{r} 6914 \\ 704 \\ - \quad 38 \\ \hline 666 \end{array}$$

4A)  $86 \times 406 =$

$$\begin{array}{r} 406 \\ \times 86 \\ \hline 2436 \\ 3248 \\ \hline 34,916 \end{array}$$

4B)  $47 \overline{) 51653}$

$$\begin{array}{r} 1,099 \\ 47 \overline{) 51653} \\ \underline{47} \phantom{00} \\ 46 \phantom{00} \\ \underline{00} \phantom{00} \\ 465 \phantom{00} \\ \underline{423} \phantom{00} \\ 423 \phantom{00} \\ \underline{423} \phantom{00} \\ 0 \end{array}$$

5) Simplify  $4 + 2(12 - 4) \div 2^2$

$$4 + 2(12 - 4) \div 2^2$$

$$4 + 2(8) \div 4$$

$$4 + 16 \div 4$$

$$4 + 4$$

$$8$$

6) What are the prime factors of 30?

$$(2)(15)$$

$$(2)(3)(5)$$

2, 3, and 5 are the prime factors of 30.

7) Which of the following is less than  $\frac{4}{5}$ ?

A)  $\frac{5}{5}$     B)  $\frac{4}{6}$     C)  $\frac{7}{8}$     D)  $\frac{7}{10}$     Answer B

$5/5 = 1$  which is larger than  $4/5$ .

Sixths are less than fifths so  $4/6$  is less than  $4/5$ .

<p>8) Write an equivalent fraction for <math>\frac{2}{3}</math> in twelfths.</p> $\frac{2}{3} = \frac{2 \times 4}{3 \times 4} = \frac{8}{12}$	<p>9)</p> $\begin{aligned} \frac{4}{5} + \frac{3}{5} - \frac{2}{5} &= \\ &= \frac{7}{5} - \frac{2}{5} \\ &= \frac{5}{5} \\ &= 1 \end{aligned}$	<p>10)</p> $\begin{aligned} \frac{4}{5} - \frac{2}{3} &= \\ \frac{4}{5} &= \frac{4 \times 3}{5 \times 3} = \frac{12}{15} \\ \frac{2}{3} &= \frac{2 \times 5}{3 \times 5} = \frac{10}{15} \\ \frac{4}{5} - \frac{2}{3} &= \frac{12}{15} - \frac{10}{15} \\ &= \frac{2}{15} \end{aligned}$
<p>11)</p> $\frac{25}{3} \div \frac{5}{6} =$ $\frac{\overset{5}{\cancel{25}}}{\underset{1}{\cancel{3}}} \times \frac{\overset{2}{\cancel{6}}}{\underset{1}{\cancel{5}}} = 10$	<p>12)</p> $\begin{aligned} 7\frac{3}{5} &= 7 + \frac{3 \times 3}{5 \times 3} = 7\frac{9}{15} = 6\frac{24}{15} \\ -3\frac{2}{3} &= 3 + \frac{2 \times 5}{3 \times 5} = -3\frac{10}{15} = -3\frac{10}{15} \\ \hline &= 3\frac{14}{15} \end{aligned}$ <p><b>Note:</b> Borrowing was required.</p>	<p>13A)</p> $12 \times 3\frac{2}{3} =$ $\frac{\overset{4}{\cancel{12}}}{1} \times \frac{11}{\underset{1}{\cancel{3}}} = 44$
<p>13B)</p> $8 \div \frac{4}{5} =$ $\frac{\overset{2}{\cancel{8}}}{1} \times \frac{5}{\underset{1}{\cancel{4}}} = 10$	<p>14) Which of the following is smallest?</p> <p>A) 106.192 B) 106.089 C) 106.093 D) 107.090</p> <p>Answer <u>B</u></p>	<p>15) Round 237.42674 to the nearest thousandth.</p> <p>237.427</p>
<p>16A)</p> $63.43 + 8.4 + 122.9 + 12.015 =$ $\begin{array}{r} \phantom{0}111 \\ 63.430 \\ 8.400 \\ 122.900 \\ + 12.015 \\ \hline 206.745 \end{array}$	<p>16B)</p> $6.15 \times 2.24 =$ $\begin{array}{r} 6.15 \\ \times 2.24 \\ \hline 2460 \\ 1230 \\ \underline{1230} \\ 13.7760 \end{array}$	
<p>17) Write <math>\frac{4}{5}</math> as a decimal.</p> $\begin{array}{r} .8 \\ 5 \overline{) 4.0} \\ \underline{40} \\ 0 \end{array}$	<p>18) Express traveling 240 miles in 4 hours as a rate.</p> $\frac{240 \text{ miles}}{4 \text{ hours}} = \frac{60 \text{ miles}}{\text{hour}}$	<p>19) Choose the correct symbol. (&gt;, =, &lt;)</p> $\frac{5}{8} \text{ — } \frac{7}{12}$ $5 \times 12 \text{ ? } 8 \times 7$ $60 > 56$ $\frac{5}{8} > \frac{7}{12}$

<p>20) Solve for x.</p> $\frac{4}{9} = \frac{x}{18}$ $(4)(18) = 9x$ $72 = 9x$ $x = 8$	<p>21A) Write <math>\frac{5}{8}</math> as a percent.</p> $\frac{5}{8} \times \frac{100\%}{1} = \frac{500\%}{8} = 62.5\%$	<p>22A) Write 57% as a fraction.</p> $57\% \rightarrow (57)\left(\frac{1}{100}\right) = \frac{57}{100}$
<p>23A) What is 9% of 60?</p> $\frac{9}{100} = \frac{x}{60}$ $(9)(60) = 100x$ $540 = 100x$ $x = 5.4$	<p>23B) 30 is 60% of what number?</p> $\frac{60}{100} = \frac{30}{x}$ $60x = (100)(30)$ $60x = 3,000$ $x = 50$	<p>23C) 7 is what percent of 35?</p> $\frac{x}{100} = \frac{7}{35}$ $35x = (100)(7)$ $35x = 700$ $x = 20\%$
<p>24A) By what percent is 60 larger than 45?</p> $\frac{x}{100} = \frac{60 - 45}{45}$ $\frac{x}{100} = \frac{15}{45}$ $45x = (100)(15)$ $45x = 1,500$ $x = 33\frac{1}{3}\%$	<p>24B) What is the result when 40 is increased by 30%?</p> $\frac{30}{100} = \frac{x}{40}$ $(30)(40) = (100)x$ $1,200 = 100x$ $x = 12 \text{ and}$ $40 + 12 = 52$	<p>25A) <math>(14)^2 =</math></p> $(14)(14) = 196$
<p>25B) <math>(.3)^2 =</math></p> $(.3)(.3) = .09$	<p>25C) <math>\sqrt{81} = 9</math></p> <p><b>Note:</b> <math>(9)(9) = 81</math></p>	<p>25D) <math>\sqrt{.04} = .2</math></p> <p><b>Note:</b> <math>(.2)(.2) = .04</math></p>