## Fractions: Subtracting fractions with different denominators.

Date: Name:

Solve each problem below, showing all your working. Convert to mixed numbers if necessary.

Look for opportunities to solve by finding the LCM (Lowest Common Multiple) to rename fractions.

$$\frac{7}{8} - \frac{3}{12}$$

[2] 
$$\frac{3}{5} - \frac{9}{20}$$

[3] 
$$\frac{8}{9} - \frac{9}{12}$$

[4] 
$$\frac{9}{16} - \frac{3}{12}$$

[5] 
$$\frac{15}{20} - \frac{9}{15}$$

[6] 
$$\frac{7}{8} - \frac{17}{24}$$

[7] 
$$\frac{6}{7} - \frac{16}{21}$$

[8] 
$$\frac{7}{12} - \frac{7}{18}$$

[9] 
$$\frac{5}{27} - \frac{1}{9}$$

[10] 
$$\frac{10}{12} - \frac{4}{9}$$

[11] 
$$\frac{5}{18} - \frac{1}{6}$$

[12] 
$$\frac{14}{15} - \frac{2}{5}$$

## **ANSWERS**

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Solve each problem below, showing all your working. Convert to mixed numbers if necessary.

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[1] 
$$\frac{7^{3}}{8_{x3}} = \frac{3^{2}}{12^{2}} + \frac{3^{2}}{12^{2}}$$
$$\frac{2^{1}}{2^{1}} = \frac{6}{2^{1}} = \frac{15}{2^{1}}$$

[2] 
$$\frac{3}{5} \frac{4}{4} \frac{9}{20} = \frac{3}{20}$$

[3] 
$$\frac{8_{x4}}{9_{x4}} = \frac{9_{x3}}{12_{x3}} = \frac{97}{12_{x3}} = \frac{32}{36}$$

$$\frac{32}{36} = \frac{27}{36} = \frac{5}{36}$$

[4] 
$$\frac{9\sqrt{3}}{16\sqrt{3}} = \frac{3\sqrt{4}}{12\sqrt{4}} + 1\sqrt{2}$$
$$\frac{27}{48} = \frac{12}{48} = \frac{15}{48} = \frac{5}{16}$$

[5] 
$$\frac{15 \times \frac{3}{20}}{20 \times 3} = \frac{9 \times 4}{15 \times 4} = \frac{157}{15}$$

$$\frac{45}{60} = \frac{36}{60 \div 3} = \frac{3}{20}$$

[6] 
$$\frac{7x^{\frac{3}{4}}}{8x^{\frac{3}{4}}} \frac{17x^{\frac{3}{4}}}{24x^{\frac{3}{4}}} \stackrel{?}{=} \frac{4x^{\frac{3}{4}}x^{\frac{3}{4}}}{24x^{\frac{3}{4}}} \stackrel{?}{=} \frac{17}{24x^{\frac{3}{4}}} \stackrel{?}{=} \frac{17}{$$

$$\frac{18}{21} - \frac{1b}{21} = \frac{2}{21}$$

[8] 
$$\frac{7 \times 3}{12 \times 3} \frac{7 \times 2 \div 12?}{18 \times 2 \times 18,36}$$
$$\frac{21}{36} - \frac{14}{36} = \boxed{\frac{7}{36}}$$

[9] 
$$\frac{5\sqrt{1}}{27\sqrt{1}} - \frac{1}{9\sqrt{3}} = \frac{27}{27}$$

[10] 
$$\frac{10x^{3}}{12x^{3}} = \frac{4x^{4}}{9x^{4}} + \frac{97}{12x^{2}}$$

$$\frac{30}{36} - \frac{16}{36} - \frac{14x^{2}}{36x^{2}} = \frac{7}{18}$$

[11] 
$$\frac{5_{\times 1}}{18_{\times 1}} \frac{1_{\times 3}}{6_{\times 3}} \stackrel{\div}{=} \frac{6?}{18} \checkmark$$
$$\frac{5}{18} - \frac{3}{18} = \frac{2 \div 2}{18 \div 2} = \boxed{\frac{1}{9}}$$

[12] 
$$\frac{14_{x_1}}{15_{x_1}} = \frac{2_{x_1}}{5_{x_2}} = \frac{2}{15}$$

$$\frac{14}{15} = \frac{6}{15} = \frac{8}{15}$$