

Name: \_\_\_\_\_

Date: \_\_\_\_\_

## Adding and Subtracting Rational Expressions **Answers**

### Section I. Simplify the Expression

1.  $\frac{5m}{(m+2)} + \frac{5m}{(m+2)}$

$$\frac{10m}{m+2}$$

2.  $\frac{(j+4)}{7} - \frac{(j-9)}{14}$

$$\frac{j+17}{14}$$

3.  $\frac{(k-2)}{k^2} + \frac{(k+6)}{4k}$

$$\frac{k^2+10k-8}{4k^2}$$

4.  $\frac{x}{(x+3)} - \frac{(x-1)}{(x-5)}$

$$\frac{-7x+3}{(x+3)(x-5)}$$

5.  $\frac{5}{(y-2)(y+2)} - \frac{9}{(y+2)(y+2)}$

$$\frac{-4y+28}{(y+2)^2(y-2)}$$

6.  $\frac{a}{a^2-a} + \frac{4}{a^2-1}$

$$\frac{a^2+5a}{a(a+1)(a-1)}$$

7.  $\frac{1}{m^2-m-2} + \frac{1}{m^2-4}$

$$\frac{2m+3}{(m+2)(m-2)(m+1)}$$

8.  $\frac{1}{j^2+2j+1} - \frac{1}{j^2-1}$

$$\frac{-2}{(j-1)(j+1)^2}$$

9.  $\frac{3}{x-2} + \frac{5}{2-x}$

$$-\frac{2}{x-2}$$

10.  $\frac{u}{u-3} - 9$

$$\frac{-8u-27}{u-3}$$

$$11. \frac{2g}{g^2-25} + \frac{3}{g^2+2g-15}$$

$$\frac{2g^2-3g-15}{(g+5)(g-5)(g-3)}$$

$$12. \frac{2}{p^2-2p-24} - \frac{3p}{p^2-5p-6}$$

$$\frac{-3p^2+20p+2}{(p-6)(p+4)(p+1)}$$

$$13. \frac{3k}{k^2-64} - \frac{k}{k^2-3k-40}$$

$$\frac{2k^2+7k}{(k+8)(k-8)(k+5)}$$

$$14. \frac{y-2}{y^2-2y-8} - \frac{y+4}{y^2+4y+4}$$

$$\frac{12}{(y+2)^2(y-4)}$$

$$15. \frac{x-1}{x^2-11x+24} - \frac{x-2}{x^2-5x-24}$$

$$\frac{7x-9}{(x+3)(x-3)(x-8)}$$

$$16. \frac{x+6}{x^2+3x-10} + \frac{x-8}{x^2+6x+5}$$

$$\frac{2x^2-3x+22}{(x+5)(x-2)(x+1)}$$

$$17. \frac{1}{6h^2-8h} - \frac{h}{3h^2-7h+4}$$

$$\frac{-2h^2+h-1}{2h(3h-4)(h-1)}$$

$$18. \frac{m+2}{3m^2+11m-4} - \frac{m-1}{3m^2-7m+2}$$

$$\frac{-3m}{(3m-1)(m+4)(m-2)}$$