

**RATIONAL EXPRESSIONS PRACTICE  
ANSWERS**

**REMINDERS**

When adding or subtracting fractions, you need a common denominator.  
When multiplying or dividing fractions, a common denominator is not necessary.  
To divide fractions, multiply the first fraction by the reciprocal of the second.  
Cancelling is allowed *only* for terms that are *factors* of the top and bottom.

**Simplify.**

1.  $\frac{6}{7}$

2.  $2x$

3.  $2x^2$

4.  $\frac{x+3}{x}$

5.  $\frac{4x}{3}$

6.  $-1$

7.  $\frac{1}{x-1}$

8.  $\frac{x-6}{x-9}$

9.  $\frac{2(x+5)}{(x+7)}$

10.  $\frac{(x+4)^2}{2(x+7)(x+3)}$

**Multiply or divide, then simplify.**

11.  $\frac{x^2(x+5)}{(x+3)(x+3)}$

12.  $\frac{3(x+3)(x+4)}{4(x+7)}$

13.  $\frac{7(x+3)(x-3)}{9x(x+5)(x^2-3)}$

14.  $\frac{(x+3)(x+8)}{2x(x-9)(x+9)}$

15.  $\frac{x(x-5)}{(x+5)}$

16.  $\frac{2(x+4)(x-7)(x+6)}{(x+7)(x^2+2x+24)}$

17.  $\frac{8(x-8)(x+8)}{x(x-9)(x+9)}$

**Add or subtract.**

18.  $\frac{9}{x}$

19.  $\frac{3x-5}{x^2}$

20.  $\frac{x^3+2x^4}{2x}$

21.  $\frac{x^2+x+4}{(x-6)(x+1)(x-1)}$

22.  $\frac{3x^2+2x-7}{(x-2)(2-x)}$

23.  $\frac{x^2-y^3}{x-y}$

24.  $\frac{8x-14}{15(x+5)}$

25.  $\frac{9xy-x^2-y^2}{x^2-y^2}$

**Solve.**

26.  $\frac{23}{2}$

27.  $\frac{-40}{7}$

28.  $7$

29.  $\frac{20}{3}$

30.  $-5$

31.  $5$

32.  $12$

33.  $11$

34.  $2$