

## 8.1 Simplify Rational Expressions

1. (a)  $z = 0$  (b)  $p = \frac{5}{6}$  (c)  $n = 2, n = -4$

3. (a)  $y = 0$  (b)  $x = -\frac{1}{2}$  (c)  $u = 7, u = -4$

5. (a) 0 (b) 4 (c) 1

7. (a) 3 (b)  $\frac{5}{2}$  (c)  $-\frac{1}{5}$

9. (a) -6 (b)  $\frac{20}{3}$  (c) 0

11. (a) -1 (b)  $-\frac{3}{10}$  (c) 0

13. (a) 0 (b)  $\frac{3}{4}$  (c)  $\frac{15}{4}$

15. (a) 0 (b)  $-\frac{3}{5}$  (c)  $-\frac{7}{20}$

17.  $-\frac{1}{13}$

19.  $\frac{8}{9}$

21.  $\frac{b}{2a}$

23.  $\frac{2m^2}{3n}$

25.  $\frac{3}{4}$

27.  $\frac{3}{5}$

29.  $\frac{7}{5}$

31.  $\frac{12}{5}$

33.  $\frac{a+3}{a-4}$

35.  $\frac{v+5}{v-4}$

37.  $\frac{x-5}{x-3}$

39.  $\frac{y+1}{y+3}$

41.  $\frac{y^2+1}{y+1}$

43.  $x-2$

45.  $\frac{a(a+5)}{2(a+3)(a-2)}$

47.  $\frac{c}{2(c-5)}$

49.  $\frac{3(m+5)}{4(m-5)}$

51.  $\frac{5(r-1)}{r+7}$

53.  $\frac{t^2+3t+9}{t+5}$

55.  $\frac{w^2-6w+36}{w-6}$

57. -1

59. -1

61.  $-\frac{2}{x+6}$

63.  $-\frac{4}{8+v}$

65.  $-\frac{y-8}{3+y}$

67.  $-\frac{a+4}{9+a}$

69. 16.5%

71. Answers will vary.