

Algebra 1.5

© 2013 Kuta Software LLC. All rights reserved.

Simplify each expression.

1)
$$\frac{3x^3 - 18x^2}{x - 1} \cdot \frac{1}{x - 6}$$

2)
$$\frac{4p + 12}{16p + 48} \div \frac{p - 4}{8}$$

3)
$$\frac{35k - 25}{2k} \cdot \frac{2k}{56k - 40}$$

4)
$$\frac{6x^2}{8x + 28} \div \frac{4x}{8x + 28}$$

5)
$$\frac{v^2 + 2v - 35}{5 - v} \cdot \frac{1}{2v - 8}$$

6)
$$\frac{5n^2}{n^2 - 3n - 18} \cdot \frac{n^2 - 3n - 18}{6}$$

7)
$$\frac{4x - 20}{3x^2} \cdot \frac{1}{x - 5}$$

8)
$$\frac{n + 6}{8n + 40} \div \frac{4n}{8n + 40}$$

9)
$$\frac{2x^2 - 2x}{6x} \cdot \frac{1}{x - 1}$$

10)
$$\frac{4}{b - 8} \cdot \frac{b - 8}{28b^2}$$

11)
$$\frac{1}{r+6} \div \frac{6r^2}{6r^3+48r^2}$$

12)
$$\frac{1}{x+3} \cdot \frac{x^2-4}{x-2}$$

13)
$$\frac{5n^2+5n}{n+1} \div \frac{n-5}{n-4}$$

14)
$$\frac{x^2+3x-28}{x-3} \div \frac{7x+49}{x-3}$$

15)
$$\frac{14n^2+42n}{n+2} \cdot \frac{n+2}{16n^3+48n^2}$$

16)
$$\frac{v+4}{6} \div \frac{v^2-2v-24}{v^2-7v+6}$$

17)
$$\frac{2}{8m} \cdot \frac{25m-10}{10m-4}$$

18)
$$\frac{b^2+5b+6}{b+2} \div \frac{b+3}{b-6}$$

19)
$$\frac{n-1}{2n^2} \cdot \frac{10n^3+16n^2}{35n+56}$$

20)
$$\frac{1}{n-7} \cdot \frac{n^2-6n-7}{2n}$$

21)
$$\frac{2x+2}{x^2-6x-7} \cdot \frac{x+7}{2}$$

22)
$$\frac{p-7}{7+6p-p^2} \div \frac{1}{3p^2}$$

23)
$$\frac{2r-6}{r+1} \cdot \frac{7}{2r-6}$$

24)
$$\frac{x-8}{5x+15} \div \frac{x-8}{x^2+11x+24}$$

25)
$$\frac{k-5}{2k-10} \div \frac{8}{k-2}$$

26)
$$\frac{5}{15a-15} \div \frac{1}{24a-24}$$

27)
$$\frac{n-5}{6n} \cdot \frac{n-5}{5n-25}$$

28)
$$\frac{1}{m+7} \div \frac{4}{4m+16}$$

29)
$$\frac{25a^3-40a^2}{4} \cdot \frac{6a^2}{30a^3-48a^2}$$

30)
$$\frac{r+4}{12r+6} \div \frac{2}{4r+2}$$

$$31) \frac{6p^3 + 24p^2}{6p^2 + 30p} \div \frac{6p^2}{14p + 70}$$

$$32) \frac{2p^2 + 14p + 20}{40p^3 - 80p^2} \cdot \frac{40p^3 - 80p^2}{10p^2 + 50p}$$

$$33) \frac{5n - 10}{3n^2 - 20n + 12} \cdot \frac{3n^2 - 20n + 12}{5n^2 + 20n - 60}$$

$$34) \frac{3k^2 - 19k + 20}{5k - 7} \cdot \frac{5k^2 - 22k + 21}{21k - 28}$$

$$35) \frac{15n + 3}{15n - 30} \cdot \frac{25n - 50}{20n + 4}$$

$$36) \frac{21b + 12}{7b^2 - 45b - 28} \cdot \frac{2b + 6}{18b + 54}$$

$$37) \frac{35x + 30}{49x + 42} \div \frac{x - 6}{7x - 21}$$

$$38) \frac{18a^2 + 12a}{6a^2 + 54a} \div \frac{9a^2 - 12a - 12}{3a^2 + 18a - 48}$$

$$39) \frac{30m^3 + 36m^2}{5m + 6} \div \frac{21m + 63}{3m^2 + 24m + 45}$$

$$40) \frac{9x - 6}{3x - 2} \div \frac{45x - 63}{50x^3 - 70x^2}$$

$$41) \frac{3n}{20n} \cdot \frac{12}{6}$$

$$42) \frac{10a}{12} \cdot \frac{2a}{2a^4}$$

$$43) \frac{4}{6} \cdot \frac{4}{20v}$$

$$44) \frac{3}{17x} \cdot \frac{11x}{12x^2}$$