Algebra 1   Name_____

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Simplify each expression.

1) $\dfrac{9k^3 + 45k^2}{9k^2} \div \dfrac{k + 5}{10k}$

2) $\dfrac{x - 7}{3x^3 - 30x^2} \div \dfrac{1}{x^2 - 8x - 20}$

3) $\dfrac{8r}{16r^2 + 56r} \div \dfrac{1}{16r + 56}$

4) $\dfrac{m^2 + 9m + 14}{7m - 56} \div \dfrac{1}{8 - m}$

5) $\dfrac{9}{9k - 81} \div \dfrac{1}{5k}$

6) $\dfrac{3}{6x - 24} \div \dfrac{1}{x - 4}$

7) $\dfrac{x - 7}{x^2 - 11x + 28} \div \dfrac{6}{x^2 - 10x + 24}$

8) $\dfrac{1}{9p} \div \dfrac{8}{9p^2 + 45p}$

9) $\dfrac{4}{35m - 7m^2} \div \dfrac{m - 6}{7m^2 - 35m}$

10) $\dfrac{1}{21k - 18} \div \dfrac{3k}{14k - 12}$

11) $\dfrac{n + 1}{n^2 - 7n - 30} \div \dfrac{n + 9}{n^2 - 7n - 30}$

12) $\dfrac{m - 9}{16m - 4m^2} \div \dfrac{1}{m - 4}$

13) $\dfrac{8}{p - 6} \div \dfrac{p + 1}{p^2 - 5p - 6}$

14) $\dfrac{r + 7}{r + 3} \div \dfrac{r + 7}{r^2 + 9r + 18}$

15) $\dfrac{1}{x - 4} \div \dfrac{10}{40 - 6x - x^2}$

16) $\dfrac{1}{x + 8} \div \dfrac{8x^2}{2x + 16}$

17) $\dfrac{7}{35x + 42} \div \dfrac{2}{45x^3 + 54x^2}$

18) $\dfrac{4}{5k + 30} \div \dfrac{4}{k^2 + k - 30}$

19) $\dfrac{n - 7}{7n + 56} \div \dfrac{1}{n + 8}$

20) $\dfrac{p^2 - 12p + 32}{p^2 - 7p - 8} \div \dfrac{1}{p + 1}$

21) $\dfrac{p - 9}{4p^3 + 28p^2} \div \dfrac{1}{4p^2}$

22) $\dfrac{m^2 - m - 6}{4} \div \dfrac{-m^2 + 7m - 12}{m - 4}$

23) $\dfrac{4p - 16}{p - 7} \div \dfrac{4 - p}{p - 7}$

24) $\dfrac{10n^3 - 30n^2}{n - 6} \div \dfrac{30n^2 - 10n^3}{7n}$

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Simplify each expression.

1) $\dfrac{9k^3 + 45k^2}{9k^2} \div \dfrac{k+5}{10k}$

  $10k$

2) $\dfrac{x-7}{3x^3 - 30x^2} \div \dfrac{1}{x^2 - 8x - 20}$ $\dfrac{(x-7)(x+2)}{3x^2}$

3) $\dfrac{8r}{16r^2 + 56r} \div \dfrac{1}{16r + 56}$

  8

4) $\dfrac{m^2 + 9m + 14}{7m - 56} \div \dfrac{1}{8 - m}$ $-\dfrac{(m+2)(m+7)}{7}$

5) $\dfrac{9}{9k - 81} \div \dfrac{1}{5k}$ $\dfrac{5k}{k-9}$

6) $\dfrac{3}{6x - 24} \div \dfrac{1}{x-4}$ $\dfrac{1}{2}$

7) $\dfrac{x-7}{x^2 - 11x + 28} \div \dfrac{6}{x^2 - 10x + 24}$ $\dfrac{x-6}{6}$

8) $\dfrac{1}{9p} \div \dfrac{8}{9p^2 + 45p}$ $\dfrac{p+5}{8}$

9) $\dfrac{4}{35m - 7m^2} \div \dfrac{m-6}{7m^2 - 35m}$ $-\dfrac{4}{m-6}$

10) $\dfrac{1}{21k - 18} \div \dfrac{3k}{14k - 12}$ $\dfrac{2}{9k}$

11) $\dfrac{n+1}{n^2 - 7n - 30} \div \dfrac{n+9}{n^2 - 7n - 30}$ $\dfrac{n+1}{n+9}$

12) $\dfrac{m-9}{16m - 4m^2} \div \dfrac{1}{m-4}$ $-\dfrac{(m-9)}{4m}$

13) $\dfrac{8}{p-6} \div \dfrac{p+1}{p^2 - 5p - 6}$

  8

14) $\dfrac{r+7}{r+3} \div \dfrac{r+7}{r^2 + 9r + 18}$

  $r+6$

15) $\dfrac{1}{x-4} \div \dfrac{10}{40 - 6x - x^2}$ $-\dfrac{(10+x)}{10}$

16) $\dfrac{1}{x+8} \div \dfrac{8x^2}{2x + 16}$ $\dfrac{1}{4x^2}$

17) $\dfrac{7}{35x + 42} \div \dfrac{2}{45x^3 + 54x^2}$ $\dfrac{9x^2}{2}$

18) $\dfrac{4}{5k + 30} \div \dfrac{4}{k^2 + k - 30}$ $\dfrac{k-5}{5}$

19) $\dfrac{n-7}{7n + 56} \div \dfrac{1}{n+8}$ $\dfrac{n-7}{7}$

20) $\dfrac{p^2 - 12p + 32}{p^2 - 7p - 8} \div \dfrac{1}{p+1}$

  $p-4$

21) $\dfrac{p-9}{4p^3 + 28p^2} \div \dfrac{1}{4p^2}$ $\dfrac{p-9}{p+7}$

22) $\dfrac{m^2 - m - 6}{4} \div \dfrac{-m^2 + 7m - 12}{m-4}$ $\dfrac{(m+2)\cdot -1}{4}$

23) $\dfrac{4p - 16}{p-7} \div \dfrac{4-p}{p-7}$

  -4

24) $\dfrac{10n^3 - 30n^2}{n-6} \div \dfrac{30n^2 - 10n^3}{7n}$ $-\dfrac{7n}{n-6}$

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Simplify each expression.

1) $\dfrac{2}{2v+16} \div \dfrac{1}{v-1}$

2) $\dfrac{6p-42}{6} \div \dfrac{p-7}{10}$

3) $\dfrac{-k^2+15k-56}{k+9} \div \dfrac{k^2-13k+42}{k+9}$

4) $\dfrac{k-9}{k-6} \div \dfrac{10k^3-100k^2}{100k^2-10k^3}$

5) $\dfrac{8}{x^2+9x+18} \div \dfrac{2x}{2x^2+12x}$

6) $\dfrac{x+4}{x^2+14x+40} \div \dfrac{1}{x^2+3x-70}$

7) $\dfrac{1}{n+2} \div \dfrac{n-4}{4n-16}$

8) $\dfrac{r-7}{5r-35} \div \dfrac{10}{r+10}$

9) $\dfrac{42-n-n^2}{n-6} \div \dfrac{6n^3+42n^2}{10n}$

10) $\dfrac{3}{x^2-4x-5} \div \dfrac{4x^2}{4x^3+4x^2}$

11) $\dfrac{8}{7b-56} \div \dfrac{8}{7b+7}$

12) $\dfrac{1}{a+10} \div \dfrac{a-1}{a^2+13a+30}$

13) $\dfrac{b^2-2b-80}{b-10} \div \dfrac{5b^3+40b^2}{b-10}$

14) $\dfrac{b^2+2b-15}{b-8} \div \dfrac{b+5}{b-8}$

15) $\dfrac{k+4}{k-2} \div \dfrac{5k}{5k^2-10k}$

16) $\dfrac{x-6}{x-10} \div \dfrac{3x^3-18x^2}{3x^3-30x^2}$

17) $\dfrac{16k-40}{12k^2-30k} \div \dfrac{1}{6k}$

18) $\dfrac{m^2-9}{m+4} \div \dfrac{m^2-9}{4m}$

19) $\dfrac{r^2-3r-4}{r-4} \div \dfrac{r+1}{4}$

20) $\dfrac{1}{k-6} \div \dfrac{k+10}{2k-12}$

21) $\dfrac{1}{8r} \div \dfrac{r-1}{r^2+6r-7}$

22) $\dfrac{1}{a-2} \div \dfrac{a-10}{a^2+8a-20}$

23) $\dfrac{9}{27x+27} \div \dfrac{6}{21x+21}$

24) $\dfrac{3a+18}{3} \div \dfrac{a+6}{3}$

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Simplify each expression.

1) $\dfrac{2}{2v+16} \div \dfrac{1}{v-1}$ $\dfrac{v-1}{v+8}$

2) $\dfrac{6p-42}{6} \div \dfrac{p-7}{10}$

   10

3) $\dfrac{-k^2+15k-56}{k+9} \div \dfrac{k^2-13k+42}{k+9}$ $-\dfrac{(k-8)}{k-6}$

4) $\dfrac{k-9}{k-6} \div \dfrac{10k^3-100k^2}{100k^2-10k^3}$ $\dfrac{k-9}{-(k-6)}$

5) $\dfrac{8}{x^2+9x+18} \div \dfrac{2x}{2x^2+12x}$ $\dfrac{8}{x+3}$

6) $\dfrac{x+4}{x^2+14x+40} \div \dfrac{1}{x^2+3x-70}$

   $x-7$

7) $\dfrac{1}{n+2} \div \dfrac{n-4}{4n-16}$ $\dfrac{4}{n+2}$

8) $\dfrac{r-7}{5r-35} \div \dfrac{10}{r+10}$ $\dfrac{r+10}{50}$

9) $\dfrac{42-n-n^2}{n-6} \div \dfrac{6n^3+42n^2}{10n}$ $-\dfrac{5}{3n}$

10) $\dfrac{3}{x^2-4x-5} \div \dfrac{4x^2}{4x^3+4x^2}$ $\dfrac{3}{x-5}$

11) $\dfrac{8}{7b-56} \div \dfrac{8}{7b+7}$ $\dfrac{b+1}{b-8}$

12) $\dfrac{1}{a+10} \div \dfrac{a-1}{a^2+13a+30}$ $\dfrac{a+3}{a-1}$

13) $\dfrac{b^2-2b-80}{b-10} \div \dfrac{5b^3+40b^2}{b-10}$ $\dfrac{b-10}{5b^2}$

14) $\dfrac{b^2+2b-15}{b-8} \div \dfrac{b+5}{b-8}$

    $b-3$

15) $\dfrac{k+4}{k-2} \div \dfrac{5k}{5k^2-10k}$

    $k+4$

16) $\dfrac{x-6}{x-10} \div \dfrac{3x^3-18x^2}{3x^3-30x^2}$

    1

17) $\dfrac{16k-40}{12k^2-30k} \div \dfrac{1}{6k}$

    8

18) $\dfrac{m^2-9}{m+4} \div \dfrac{m^2-9}{4m}$ $\dfrac{4m}{m+4}$

19) $\dfrac{r^2-3r-4}{r-4} \div \dfrac{r+1}{4}$

    4

20) $\dfrac{1}{k-6} \div \dfrac{k+10}{2k-12}$ $\dfrac{2}{k+10}$

21) $\dfrac{1}{8r} \div \dfrac{r-1}{r^2+6r-7}$ $\dfrac{r+7}{8r}$

22) $\dfrac{1}{a-2} \div \dfrac{a-10}{a^2+8a-20}$ $\dfrac{a+10}{a-10}$

23) $\dfrac{9}{27x+27} \div \dfrac{6}{21x+21}$ $\dfrac{7}{6}$

24) $\dfrac{3a+18}{3} \div \dfrac{a+6}{3}$

    3

Algebra 1

Assignment

Simplify each expression.

1) $\dfrac{3n-18}{n+4} \div \dfrac{1}{n+4}$

2) $\dfrac{24x+48}{x-1} \div \dfrac{21x^2+42x}{7x}$

3) $\dfrac{2}{24n-80} \div \dfrac{10}{30n-100}$

4) $\dfrac{9x-63}{x+8} \div \dfrac{x-7}{x+8}$

5) $\dfrac{9a}{a-8} \div \dfrac{a+3}{9a-72}$

6) $\dfrac{9n^3+9n^2}{9n^3-72n^2} \div \dfrac{n+1}{3n}$

7) $\dfrac{1}{x-9} \div \dfrac{x+7}{5x+35}$

8) $\dfrac{k+7}{3k-27} \div \dfrac{7-k}{k^2-16k+63}$

9) $\dfrac{n+5}{7n-63} \div \dfrac{1}{n-9}$

10) $\dfrac{x+2}{7x^3+14x^2} \div \dfrac{1}{x+8}$

11) $\dfrac{1}{a+3} \div \dfrac{a-5}{a^2-10a+25}$

12) $\dfrac{r-1}{r-3} \div \dfrac{r^2+14r+45}{3-r}$

13) $\dfrac{1}{x^2-6x+8} \div \dfrac{x+3}{4x-16}$

14) $\dfrac{a+4}{5a} \div \dfrac{a^2-4a-32}{8a^2}$

15) $\dfrac{1}{10x} \div \dfrac{6x^2}{10x^2+80x}$

16) $\dfrac{9a}{15a-15a^2} \div \dfrac{9a}{30a^2-30a}$

17) $\dfrac{7x^2}{5x} \div \dfrac{7x^3-21x^2}{x^2-12x+27}$

18) $\dfrac{n-6}{n-3} \div \dfrac{1}{n^2+2n-15}$

19) $\dfrac{10p^2+60p}{5} \div \dfrac{10p^2+60p}{9p^2}$

20) $\dfrac{25r^3-10r^2}{r-2} \div \dfrac{10r-4}{2}$

21) $\dfrac{m+2}{m^2+9m+14} \div \dfrac{1}{m+8}$

22) $\dfrac{4n-12}{n+2} \div \dfrac{4n+8}{n+2}$

23) $\dfrac{v-9}{5v^2-10v} \div \dfrac{1}{5v}$

24) $\dfrac{10n-80}{4} \div \dfrac{10n-80}{5}$

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Simplify each expression.

1) $\dfrac{3n-18}{n+4} \div \dfrac{1}{n+4}$

$\quad\quad 3(n-6)$

2) $\dfrac{24x+48}{x-1} \div \dfrac{21x^2+42x}{7x}$ $\quad \dfrac{8}{x-1}$

3) $\dfrac{2}{24n-80} \div \dfrac{10}{30n-100}$ $\quad \dfrac{1}{4}$

4) $\dfrac{9x-63}{x+8} \div \dfrac{x-7}{x+8}$

$\quad\quad 9$

5) $\dfrac{9a}{a-8} \div \dfrac{a+3}{9a-72}$ $\quad \dfrac{81a}{a+3}$

6) $\dfrac{9n^3+9n^2}{9n^3-72n^2} \div \dfrac{n+1}{3n}$ $\quad \dfrac{3n}{n-8}$

7) $\dfrac{1}{x-9} \div \dfrac{x+7}{5x+35}$ $\quad \dfrac{5}{x-9}$

8) $\dfrac{k+7}{3k-27} \div \dfrac{7-k}{k^2-16k+63}$ $\quad -\dfrac{(k+7)}{3}$

9) $\dfrac{n+5}{7n-63} \div \dfrac{1}{n-9}$ $\quad \dfrac{n+5}{7}$

10) $\dfrac{x+2}{7x^3+14x^2} \div \dfrac{1}{x+8}$ $\quad \dfrac{x+8}{7x^2}$

11) $\dfrac{1}{a+3} \div \dfrac{a-5}{a^2-10a+25}$ $\quad \dfrac{a-5}{a+3}$

12) $\dfrac{r-1}{r-3} \div \dfrac{r^2+14r+45}{3-r}$ $\quad -\dfrac{(r-1)}{(r+5)(r+9)}$

13) $\dfrac{1}{x^2-6x+8} \div \dfrac{x+3}{4x-16}$ $\quad \dfrac{4}{(x-2)(x+3)}$

14) $\dfrac{a+4}{5a} \div \dfrac{a^2-4a-32}{8a^2}$ $\quad \dfrac{8a}{5(a-8)}$

15) $\dfrac{1}{10x} \div \dfrac{6x^2}{10x^2+80x}$ $\quad \dfrac{x+8}{6x^2}$

16) $\dfrac{9a}{15a-15a^2} \div \dfrac{9a}{30a^2-30a}$

$\quad\quad -2$

17) $\dfrac{7x^2}{5x} \div \dfrac{7x^3-21x^2}{x^2-12x+27}$ $\quad \dfrac{x-9}{5x}$

18) $\dfrac{n-6}{n-3} \div \dfrac{1}{n^2+2n-15}$

$\quad\quad (n-6)(n+5)$

19) $\dfrac{10p^2+60p}{5} \div \dfrac{10p^2+60p}{9p^2}$ $\quad \dfrac{9p^2}{5}$

20) $\dfrac{25r^3-10r^2}{r-2} \div \dfrac{10r-4}{2}$ $\quad \dfrac{5r^2}{r-2}$

21) $\dfrac{m+2}{m^2+9m+14} \div \dfrac{1}{m+8}$ $\quad \dfrac{m+8}{m+7}$

22) $\dfrac{4n-12}{n+2} \div \dfrac{4n+8}{n+2}$ $\quad \dfrac{n-3}{n+2}$

23) $\dfrac{v-9}{5v^2-10v} \div \dfrac{1}{5v}$ $\quad \dfrac{v-9}{v-2}$

24) $\dfrac{10n-80}{4} \div \dfrac{10n-80}{5}$ $\quad \dfrac{5}{4}$

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Simplify each expression.

1) $\dfrac{10n - 5n^2}{n^2 - 11n + 18} \div \dfrac{5n}{2}$

2) $\dfrac{n^2 - 6n + 8}{n - 1} \div \dfrac{-n^2 + 6n - 8}{n + 9}$

3) $\dfrac{n + 9}{n + 2} \div \dfrac{n + 9}{n^2 + n - 2}$

4) $\dfrac{x^2 + 9x + 20}{x + 5} \div \dfrac{x + 4}{10}$

5) $\dfrac{n - 8}{n^2 + 4n + 3} \div \dfrac{1}{n + 3}$

6) $\dfrac{b - 1}{b^2 - b - 42} \div \dfrac{1}{b - 7}$

7) $\dfrac{2n}{6n^2 + 8n} \div \dfrac{n - 10}{12n^3 + 16n^2}$

8) $\dfrac{x^2 + 19x + 90}{8x^2} \div \dfrac{x^2 + 19x + 90}{5}$

9) $\dfrac{28a^2 - 12a}{5a^2} \div \dfrac{28a^2 - 12a}{8}$

10) $\dfrac{10m^2}{6m + 6} \div \dfrac{3m}{6m + 6}$

11) $\dfrac{5n}{n - 6} \div \dfrac{5n - 50}{6 - n}$

12) $\dfrac{n - 2}{n + 8} \div \dfrac{n - 7}{56 - n - n^2}$

13) $\dfrac{r^2 - 4r - 12}{4r^2} \div \dfrac{r^2 - 4r - 12}{r - 6}$

14) $\dfrac{1}{a - 9} \div \dfrac{7a^2}{7a^3 + 35a^2}$

15) $\dfrac{b - 10}{16b^2 - 24b} \div \dfrac{5b^2}{16b^2 - 24b}$

16) $\dfrac{3}{7a - 7} \div \dfrac{3}{7a - 7}$

17) $\dfrac{x - 9}{4x - 36} \div \dfrac{9x^2}{5x}$

18) $\dfrac{m + 10}{m - 7} \div \dfrac{m + 10}{8m - 56}$

19) $\dfrac{8x^2 + 24x}{9} \div \dfrac{3x^2}{9}$

20) $\dfrac{2}{4p} \div \dfrac{4p + 12}{14p + 42}$

21) $\dfrac{a^2 - 6a + 8}{a^2 - 2a - 8} \div \dfrac{1}{a + 2}$

22) $\dfrac{9}{n + 3} \div \dfrac{30 + n - n^2}{n - 6}$

23) $\dfrac{3}{15x + 24} \div \dfrac{x - 10}{15x + 24}$

24) $\dfrac{x^2 + 4x - 21}{x^2 + 5x - 6} \div \dfrac{1}{x - 1}$

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Simplify each expression.

1) $\dfrac{10n - 5n^2}{n^2 - 11n + 18} \div \dfrac{5n}{2}$ $\quad -\dfrac{2}{n - 9}$

2) $\dfrac{n^2 - 6n + 8}{n - 1} \div \dfrac{-n^2 + 6n - 8}{n + 9}$ $\quad -\dfrac{(n + 9)}{n - 1}$

3) $\dfrac{n + 9}{n + 2} \div \dfrac{n + 9}{n^2 + n - 2}$ $\quad n - 1$

4) $\dfrac{x^2 + 9x + 20}{x + 5} \div \dfrac{x + 4}{10}$ $\quad 10$

5) $\dfrac{n - 8}{n^2 + 4n + 3} \div \dfrac{1}{n + 3}$ $\quad \dfrac{n - 8}{n + 1}$

6) $\dfrac{b - 1}{b^2 - b - 42} \div \dfrac{1}{b - 7}$ $\quad \dfrac{b - 1}{b + 6}$

7) $\dfrac{2n}{6n^2 + 8n} \div \dfrac{n - 10}{12n^3 + 16n^2}$ $\quad \dfrac{4n^2}{n - 10}$

8) $\dfrac{x^2 + 19x + 90}{8x^2} \div \dfrac{x^2 + 19x + 90}{5}$ $\quad \dfrac{5}{8x^2}$

9) $\dfrac{28a^2 - 12a}{5a^2} \div \dfrac{28a^2 - 12a}{8}$ $\quad \dfrac{8}{5a^2}$

10) $\dfrac{10m^2}{6m + 6} \div \dfrac{3m}{6m + 6}$ $\quad \dfrac{10m}{3}$

11) $\dfrac{5n}{n - 6} \div \dfrac{5n - 50}{6 - n}$ $\quad -\dfrac{n}{n - 10}$

12) $\dfrac{n - 2}{n + 8} \div \dfrac{n - 7}{56 - n - n^2}$ $\quad -(n - 2)$

13) $\dfrac{r^2 - 4r - 12}{4r^2} \div \dfrac{r^2 - 4r - 12}{r - 6}$ $\quad \dfrac{r - 6}{4r^2}$

14) $\dfrac{1}{a - 9} \div \dfrac{7a^2}{7a^3 + 35a^2}$ $\quad \dfrac{a + 5}{a - 9}$

15) $\dfrac{b - 10}{16b^2 - 24b} \div \dfrac{5b^2}{16b^2 - 24b}$ $\quad \dfrac{b - 10}{5b^2}$

16) $\dfrac{3}{7a - 7} \div \dfrac{3}{7a - 7}$ $\quad 1$

17) $\dfrac{x - 9}{4x - 36} \div \dfrac{9x^2}{5x}$ $\quad \dfrac{5}{36x}$

18) $\dfrac{m + 10}{m - 7} \div \dfrac{m + 10}{8m - 56}$ $\quad 8$

19) $\dfrac{8x^2 + 24x}{9} \div \dfrac{3x^2}{9}$ $\quad \dfrac{8(x + 3)}{3x}$

20) $\dfrac{2}{4p} \div \dfrac{4p + 12}{14p + 42}$ $\quad \dfrac{7}{4p}$

21) $\dfrac{a^2 - 6a + 8}{a^2 - 2a - 8} \div \dfrac{1}{a + 2}$ $\quad a - 2$

22) $\dfrac{9}{n + 3} \div \dfrac{30 + n - n^2}{n - 6}$ $\quad -\dfrac{9}{(n + 3)(5 + n)}$

23) $\dfrac{3}{15x + 24} \div \dfrac{x - 10}{15x + 24}$ $\quad \dfrac{3}{x - 10}$

24) $\dfrac{x^2 + 4x - 21}{x^2 + 5x - 6} \div \dfrac{1}{x - 1}$ $\quad \dfrac{(x + 7)(x - 3)}{x + 6}$

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Simplify each expression.

1) $\dfrac{x-10}{x^2+5x-6} \div \dfrac{x-7}{x^2+5x-6}$

2) $\dfrac{7n+7}{n^2-3n-4} \div \dfrac{1}{4-n}$

3) $\dfrac{5}{m^2-6m-27} \div \dfrac{5}{4m^3+12m^2}$

4) $\dfrac{10n+80}{10} \div \dfrac{n+8}{n-10}$

5) $\dfrac{p+6}{9p^2} \div \dfrac{8-p}{9p^3-72p^2}$

6) $\dfrac{1}{a-3} \div \dfrac{9}{a^2-10a+21}$

7) $\dfrac{4}{4n-20} \div \dfrac{1}{n^2+n-30}$

8) $\dfrac{10x+90}{10} \div \dfrac{10x+90}{x-10}$

9) $\dfrac{v^2+8v+15}{2} \div \dfrac{v^2+11v+24}{2}$

10) $\dfrac{5}{10x+35} \div \dfrac{8}{10x+35}$

11) $\dfrac{2-n}{5n^2-25n} \div \dfrac{n-2}{n^2-2n-15}$

12) $\dfrac{1}{p-8} \div \dfrac{p-2}{7p^2-56p}$

13) $\dfrac{m+8}{m-8} \div \dfrac{m+7}{56+m-m^2}$

14) $\dfrac{5x^2-30x}{9x} \div \dfrac{5x}{6x}$

15) $\dfrac{3}{3x-3} \div \dfrac{x+2}{x^2-1}$

16) $\dfrac{6-n}{3n} \div \dfrac{n-6}{3n^2+18n}$

17) $\dfrac{4x-24}{4} \div \dfrac{x-6}{x+3}$

18) $\dfrac{1}{m-2} \div \dfrac{8m+48}{10m-20}$

19) $\dfrac{x+1}{2x+2} \div \dfrac{1}{30x^3}$

20) $\dfrac{6k+18}{4k} \div \dfrac{6k+18}{7}$

21) $\dfrac{9b}{6b^2} \div \dfrac{9b}{3b-30}$

22) $\dfrac{2}{4x} \div \dfrac{6x+16}{27x+72}$

23) $\dfrac{8x+40}{8} \div \dfrac{x^2+15x+50}{7}$

24) $\dfrac{x-4}{4-x} \div \dfrac{20x+16}{35x^2+28x}$

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Simplify each expression.

1) $\dfrac{x-10}{x^2+5x-6} \div \dfrac{x-7}{x^2+5x-6}$ $\quad \dfrac{x-10}{x-7}$

2) $\dfrac{7n+7}{n^2-3n-4} \div \dfrac{1}{4-n}$

$\quad -7$

3) $\dfrac{5}{m^2-6m-27} \div \dfrac{5}{4m^3+12m^2}$ $\quad \dfrac{4m^2}{m-9}$

4) $\dfrac{10n+80}{10} \div \dfrac{n+8}{n-10}$

$\quad n-10$

5) $\dfrac{p+6}{9p^2} \div \dfrac{8-p}{9p^3-72p^2}$

$\quad -(p+6)$

6) $\dfrac{1}{a-3} \div \dfrac{9}{a^2-10a+21}$ $\quad \dfrac{a-7}{9}$

7) $\dfrac{4}{4n-20} \div \dfrac{1}{n^2+n-30}$

$\quad n+6$

8) $\dfrac{10x+90}{10} \div \dfrac{10x+90}{x-10}$ $\quad \dfrac{x-10}{10}$

9) $\dfrac{v^2+8v+15}{2} \div \dfrac{v^2+11v+24}{2}$ $\quad \dfrac{v+5}{v+8}$

10) $\dfrac{5}{10x+35} \div \dfrac{8}{10x+35}$ $\quad \dfrac{5}{8}$

11) $\dfrac{2-n}{5n^2-25n} \div \dfrac{n-2}{n^2-2n-15}$ $\quad -\dfrac{(n+3)}{5n}$

12) $\dfrac{1}{p-8} \div \dfrac{p-2}{7p^2-56p}$ $\quad \dfrac{7p}{p-2}$

13) $\dfrac{m+8}{m-8} \div \dfrac{m+7}{56+m-m^2}$

$\quad -(m+8)$

14) $\dfrac{5x^2-30x}{9x} \div \dfrac{5x}{6x}$ $\quad \dfrac{2(x-6)}{3}$

15) $\dfrac{3}{3x-3} \div \dfrac{x+2}{x^2-1}$ $\quad \dfrac{x+1}{x+2}$

16) $\dfrac{6-n}{3n} \div \dfrac{n-6}{3n^2+18n}$

$\quad -(n+6)$

17) $\dfrac{4x-24}{4} \div \dfrac{x-6}{x+3}$

$\quad x+3$

18) $\dfrac{1}{m-2} \div \dfrac{8m+48}{10m-20}$ $\quad \dfrac{5}{4(m+6)}$

19) $\dfrac{x+1}{2x+2} \div \dfrac{1}{30x^3}$

$\quad 15x^3$

20) $\dfrac{6k+18}{4k} \div \dfrac{6k+18}{7}$ $\quad \dfrac{7}{4k}$

21) $\dfrac{9b}{6b^2} \div \dfrac{9b}{3b-30}$ $\quad \dfrac{b-10}{2b^2}$

22) $\dfrac{2}{4x} \div \dfrac{6x+16}{27x+72}$ $\quad \dfrac{9}{4x}$

23) $\dfrac{8x+40}{8} \div \dfrac{x^2+15x+50}{7}$ $\quad \dfrac{7}{x+10}$

24) $\dfrac{x-4}{4-x} \div \dfrac{20x+16}{35x^2+28x}$ $\quad -\dfrac{7x}{4}$

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Simplify each expression.

1) $\dfrac{n+6}{n+10} \div \dfrac{n^2-8n+15}{n^2+5n-50}$

2) $\dfrac{x^2+5x-36}{x-4} \div \dfrac{x+9}{x+8}$

3) $\dfrac{a^2-12a+32}{10} \div \dfrac{a^2-10a+16}{a-2}$

4) $\dfrac{2v-4}{2} \div \dfrac{v-2}{9v^2}$

5) $\dfrac{7x}{x^2+10x+16} \div \dfrac{1}{x+2}$

6) $\dfrac{v^2+16v+64}{v+3} \div \dfrac{v+8}{v+9}$

7) $\dfrac{8r^2-40r}{r-3} \div \dfrac{r+7}{r-3}$

8) $\dfrac{20-8n-n^2}{8} \div \dfrac{10n^2-20n}{8}$

9) $\dfrac{x^2+5x-6}{x+6} \div \dfrac{x-1}{6}$

10) $\dfrac{1}{k-6} \div \dfrac{8k^2+28k}{18k+63}$

11) $\dfrac{b^2+14b+48}{b+6} \div \dfrac{3b}{b+6}$

12) $\dfrac{1}{a+4} \div \dfrac{a-2}{10a^2+40a}$

13) $\dfrac{x-3}{6x} \div \dfrac{28x+28}{42x^2+42x}$

14) $\dfrac{1}{n+8} \div \dfrac{n+10}{n^2+7n-30}$

15) $\dfrac{1}{10n^2-60n} \div \dfrac{n+3}{n^2-3n-18}$

16) $\dfrac{9}{x-5} \div \dfrac{3}{x-5}$

17) $\dfrac{p+1}{p^2+p-42} \div \dfrac{1}{p+7}$

18) $\dfrac{1}{x-8} \div \dfrac{x+3}{x^2-9x+8}$

19) $\dfrac{9}{27x-81} \div \dfrac{4}{12x-36}$

20) $\dfrac{6v^2}{42v^3-18v^2} \div \dfrac{10}{42v^2-18v}$

21) $\dfrac{n+7}{n-4} \div \dfrac{n+7}{9n^3-36n^2}$

22) $\dfrac{18a^2+54a}{12a+36} \div \dfrac{6a}{5a}$

23) $\dfrac{5}{k^2+10k+16} \div \dfrac{1}{k^2+10k+16}$

24) $\dfrac{-x^2+11x-10}{3x} \div \dfrac{x^2-11x+10}{3}$

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Simplify each expression.

1) $\dfrac{n+6}{n+10} \div \dfrac{n^2-8n+15}{n^2+5n-50}$ $\dfrac{n+6}{n-3}$

2) $\dfrac{x^2+5x-36}{x-4} \div \dfrac{x+9}{x+8}$

   $x+8$

3) $\dfrac{a^2-12a+32}{10} \div \dfrac{a^2-10a+16}{a-2}$ $\dfrac{a-4}{10}$

4) $\dfrac{2v-4}{2} \div \dfrac{v-2}{9v^2}$

   $9v^2$

5) $\dfrac{7x}{x^2+10x+16} \div \dfrac{1}{x+2}$ $\dfrac{7x}{x+8}$

6) $\dfrac{v^2+16v+64}{v+3} \div \dfrac{v+8}{v+9}$ $\dfrac{(v+8)(v+9)}{v+3}$

7) $\dfrac{8r^2-40r}{r-3} \div \dfrac{r+7}{r-3}$ $\dfrac{8r(r-5)}{r+7}$

8) $\dfrac{20-8n-n^2}{8} \div \dfrac{10n^2-20n}{8}$ $-\dfrac{(10+n)}{10n}$

9) $\dfrac{x^2+5x-6}{x+6} \div \dfrac{x-1}{6}$

   6

10) $\dfrac{1}{k-6} \div \dfrac{8k^2+28k}{18k+63}$ $\dfrac{9}{4k(k-6)}$

11) $\dfrac{b^2+14b+48}{b+6} \div \dfrac{3b}{b+6}$ $\dfrac{(b+6)(b+8)}{3b}$

12) $\dfrac{1}{a+4} \div \dfrac{a-2}{10a^2+40a}$ $\dfrac{10a}{a-2}$

13) $\dfrac{x-3}{6x} \div \dfrac{28x+28}{42x^2+42x}$ $\dfrac{x-3}{4}$

14) $\dfrac{1}{n+8} \div \dfrac{n+10}{n^2+7n-30}$ $\dfrac{n-3}{n+8}$

15) $\dfrac{1}{10n^2-60n} \div \dfrac{n+3}{n^2-3n-18}$ $\dfrac{1}{10n}$

16) $\dfrac{9}{x-5} \div \dfrac{3}{x-5}$

    3

17) $\dfrac{p+1}{p^2+p-42} \div \dfrac{1}{p+7}$ $\dfrac{p+1}{p-6}$

18) $\dfrac{1}{x-8} \div \dfrac{x+3}{x^2-9x+8}$ $\dfrac{x-1}{x+3}$

19) $\dfrac{9}{27x-81} \div \dfrac{4}{12x-36}$

    1

20) $\dfrac{6v^2}{42v^3-18v^2} \div \dfrac{10}{42v^2-18v}$ $\dfrac{3v}{5}$

21) $\dfrac{n+7}{n-4} \div \dfrac{n+7}{9n^3-36n^2}$

    $9n^2$

22) $\dfrac{18a^2+54a}{12a+36} \div \dfrac{6a}{5a}$ $\dfrac{5a}{4}$

23) $\dfrac{5}{k^2+10k+16} \div \dfrac{1}{k^2+10k+16}$

    5

24) $\dfrac{-x^2+11x-10}{3x} \div \dfrac{x^2-11x+10}{3}$ $-\dfrac{1}{x}$

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Simplify each expression.

1) $\dfrac{3p - 30}{3} \div \dfrac{3p - 15}{3}$

2) $\dfrac{7m}{42m^2 - 60m} \div \dfrac{1}{42m^2 - 60m}$

3) $\dfrac{21n + 42}{n - 7} \div \dfrac{12n^2 + 24n}{n - 7}$

4) $\dfrac{5p}{p^2 - 11p + 10} \div \dfrac{1}{p - 1}$

5) $\dfrac{2x + 8}{3} \div \dfrac{x^2 - 3x - 28}{3}$

6) $\dfrac{p - 6}{p - 5} \div \dfrac{p - 8}{p^2 + 4p - 45}$

7) $\dfrac{3n + 30}{5n} \div \dfrac{3}{n - 2}$

8) $\dfrac{5n^3 - 20n^2}{n - 4} \div \dfrac{5n^3 + 10n^2}{5n^2}$

9) $\dfrac{a + 5}{10a^2 + 20a} \div \dfrac{a + 7}{a + 2}$

10) $\dfrac{1}{2n + 10} \div \dfrac{n - 8}{n^2 - 18n + 80}$

11) $\dfrac{1}{v - 3} \div \dfrac{4v}{4v^2 + 8v}$

12) $\dfrac{8a^2 - 40a}{8a} \div \dfrac{1}{a + 5}$

13) $\dfrac{7r}{r - 7} \div \dfrac{10r - 100}{10r - 70}$

14) $\dfrac{18p^2 + 18p}{p - 2} \div \dfrac{16p + 16}{8}$

15) $\dfrac{7a^2}{14a^3 - 7a^2} \div \dfrac{a + 3}{18a^3 - 9a^2}$

16) $\dfrac{m + 10}{m - 6} \div \dfrac{m - 4}{m^2 - 10m + 24}$

17) $\dfrac{10}{10b} \div \dfrac{16 - 12b}{12b - 16}$

18) $\dfrac{9x^2}{63x^3 + 18x^2} \div \dfrac{1}{70x^2 + 20x}$

19) $\dfrac{7}{9x - 54} \div \dfrac{7}{9x + 81}$

20) $\dfrac{r + 10}{r + 9} \div \dfrac{r^2 + 8r - 20}{r^2 + 6r - 16}$

21) $\dfrac{1}{2x^3 + 2x^2} \div \dfrac{x - 8}{x^2 - x - 56}$

22) $\dfrac{2}{2k + 2} \div \dfrac{3}{k - 5}$

23) $\dfrac{35n + 40}{5} \div \dfrac{28n^2 + 32n}{10}$

24) $\dfrac{1}{x - 1} \div \dfrac{x - 9}{x^2 + 4x - 5}$

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Simplify each expression.

1) $\dfrac{3p-30}{3} \div \dfrac{3p-15}{3}$ $\dfrac{p-10}{p-5}$

2) $\dfrac{7m}{42m^2-60m} \div \dfrac{1}{42m^2-60m}$

   $7m$

3) $\dfrac{21n+42}{n-7} \div \dfrac{12n^2+24n}{n-7}$ $\dfrac{7}{4n}$

4) $\dfrac{5p}{p^2-11p+10} \div \dfrac{1}{p-1}$ $\dfrac{5p}{p-10}$

5) $\dfrac{2x+8}{3} \div \dfrac{x^2-3x-28}{3}$ $\dfrac{2}{x-7}$

6) $\dfrac{p-6}{p-5} \div \dfrac{p-8}{p^2+4p-45}$ $\dfrac{(p-6)(p+9)}{p-8}$

7) $\dfrac{3n+30}{5n} \div \dfrac{3}{n-2}$ $\dfrac{(n+10)(n-2)}{5n}$

8) $\dfrac{5n^3-20n^2}{n-4} \div \dfrac{5n^3+10n^2}{5n^2}$ $\dfrac{5n^2}{n+2}$

9) $\dfrac{a+5}{10a^2+20a} \div \dfrac{a+7}{a+2}$ $\dfrac{a+5}{10a(a+7)}$

10) $\dfrac{1}{2n+10} \div \dfrac{n-8}{n^2-18n+80}$ $\dfrac{n-10}{2(n+5)}$

11) $\dfrac{1}{v-3} \div \dfrac{4v}{4v^2+8v}$ $\dfrac{v+2}{v-3}$

12) $\dfrac{8a^2-40a}{8a} \div \dfrac{1}{a+5}$

    $(a+5)(a-5)$

13) $\dfrac{7r}{r-7} \div \dfrac{10r-100}{10r-70}$ $\dfrac{7r}{r-10}$

14) $\dfrac{18p^2+18p}{p-2} \div \dfrac{16p+16}{8}$ $\dfrac{9p}{p-2}$

15) $\dfrac{7a^2}{14a^3-7a^2} \div \dfrac{a+3}{18a^3-9a^2}$ $\dfrac{9a^2}{a+3}$

16) $\dfrac{m+10}{m-6} \div \dfrac{m-4}{m^2-10m+24}$

    $m+10$

17) $\dfrac{10}{10b} \div \dfrac{16-12b}{12b-16}$ $-\dfrac{1}{b}$

18) $\dfrac{9x^2}{63x^3+18x^2} \div \dfrac{1}{70x^2+20x}$

    $10x$

19) $\dfrac{7}{9x-54} \div \dfrac{7}{9x+81}$ $\dfrac{x+9}{x-6}$

20) $\dfrac{r+10}{r+9} \div \dfrac{r^2+8r-20}{r^2+6r-16}$ $\dfrac{r+8}{r+9}$

21) $\dfrac{1}{2x^3+2x^2} \div \dfrac{x-8}{x^2-x-56}$ $\dfrac{x+7}{2x^2(x+1)}$

22) $\dfrac{2}{2k+2} \div \dfrac{3}{k-5}$ $\dfrac{k-5}{3(k+1)}$

23) $\dfrac{35n+40}{5} \div \dfrac{28n^2+32n}{10}$ $\dfrac{5}{2n}$

24) $\dfrac{1}{x-1} \div \dfrac{x-9}{x^2+4x-5}$ $\dfrac{x+5}{x-9}$

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Simplify each expression.

1) $\dfrac{8v-28}{4} \div \dfrac{8v-28}{v-7}$

2) $\dfrac{5n^2}{2n^2} \div \dfrac{n^2-6n-40}{n-10}$

3) $\dfrac{x^2-17x+70}{x-10} \div \dfrac{x-7}{5}$

4) $\dfrac{6x+60}{x+4} \div \dfrac{x-9}{x+4}$

5) $\dfrac{70x-60}{5x^2} \div \dfrac{35x-30}{5}$

6) $\dfrac{9n-15}{n-5} \div \dfrac{21n^2-35n}{n-5}$

7) $\dfrac{6x-6}{x+10} \div \dfrac{6x-6}{10x^2}$

8) $\dfrac{35v^2-30v}{9} \div \dfrac{70v^2-60v}{10v}$

9) $\dfrac{p-8}{p^2-p-56} \div \dfrac{1}{p^2-4p-21}$

10) $\dfrac{1}{m+7} \div \dfrac{7m^2}{m^2+14m+49}$

11) $\dfrac{10x+40}{5} \div \dfrac{x+5}{5}$

12) $\dfrac{n-3}{10n+40} \div \dfrac{1}{n+4}$

13) $\dfrac{3n}{n+4} \div \dfrac{5n+45}{n^2+13n+36}$

14) $\dfrac{x^2-12x+35}{x-7} \div \dfrac{x-5}{4x}$

15) $\dfrac{1}{n+4} \div \dfrac{n+2}{9n+18}$

16) $\dfrac{25x^2+50x}{30x^2+60x} \div \dfrac{x-7}{6x}$

17) $\dfrac{r^2+8r-9}{r^2-9r+8} \div \dfrac{1}{r-8}$

18) $\dfrac{7a^2-21a}{9a} \div \dfrac{a-3}{a+3}$

19) $\dfrac{x-1}{3x^3-9x^2} \div \dfrac{1}{x-3}$

20) $\dfrac{x^2+5x-50}{x^2-x-20} \div \dfrac{x+10}{6x}$

21) $\dfrac{x-8}{x^2-2x-48} \div \dfrac{1}{x+3}$

22) $\dfrac{n+8}{9n^2-18n} \div \dfrac{1}{n-2}$

23) $\dfrac{10x+70}{7-x} \div \dfrac{x+7}{x-7}$

24) $\dfrac{a-10}{3-a} \div \dfrac{1}{9a^3-27a^2}$

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Simplify each expression.

1) $\dfrac{8v-28}{4} \div \dfrac{8v-28}{v-7}$ $\dfrac{v-7}{4}$

2) $\dfrac{5n^2}{2n^2} \div \dfrac{n^2-6n-40}{n-10}$ $\dfrac{5}{2(n+4)}$

3) $\dfrac{x^2-17x+70}{x-10} \div \dfrac{x-7}{5}$

   5

4) $\dfrac{6x+60}{x+4} \div \dfrac{x-9}{x+4}$ $\dfrac{6(x+10)}{x-9}$

5) $\dfrac{70x-60}{5x^2} \div \dfrac{35x-30}{5}$ $\dfrac{2}{x^2}$

6) $\dfrac{9n-15}{n-5} \div \dfrac{21n^2-35n}{n-5}$ $\dfrac{3}{7n}$

7) $\dfrac{6x-6}{x+10} \div \dfrac{6x-6}{10x^2}$ $\dfrac{10x^2}{x+10}$

8) $\dfrac{35v^2-30v}{9} \div \dfrac{70v^2-60v}{10v}$ $\dfrac{5v}{9}$

9) $\dfrac{p-8}{p^2-p-56} \div \dfrac{1}{p^2-4p-21}$ $\dfrac{(p+3)(p-7)}{p+7}$

10) $\dfrac{1}{m+7} \div \dfrac{7m^2}{m^2+14m+49}$ $\dfrac{m+7}{7m^2}$

11) $\dfrac{10x+40}{5} \div \dfrac{x+5}{5}$ $\dfrac{10(x+4)}{x+5}$

12) $\dfrac{n-3}{10n+40} \div \dfrac{1}{n+4}$ $\dfrac{n-3}{10}$

13) $\dfrac{3n}{n+4} \div \dfrac{5n+45}{n^2+13n+36}$ $\dfrac{3n}{5}$

14) $\dfrac{x^2-12x+35}{x-7} \div \dfrac{x-5}{4x}$

    $4x$

15) $\dfrac{1}{n+4} \div \dfrac{n+2}{9n+18}$ $\dfrac{9}{n+4}$

16) $\dfrac{25x^2+50x}{30x^2+60x} \div \dfrac{x-7}{6x}$ $\dfrac{5x}{x-7}$

17) $\dfrac{r^2+8r-9}{r^2-9r+8} \div \dfrac{1}{r-8}$

    $r+9$

18) $\dfrac{7a^2-21a}{9a} \div \dfrac{a-3}{a+3}$ $\dfrac{7(a+3)}{9}$

19) $\dfrac{x-1}{3x^3-9x^2} \div \dfrac{1}{x-3}$ $\dfrac{x-1}{3x^2}$

20) $\dfrac{x^2+5x-50}{x^2-x-20} \div \dfrac{x+10}{6x}$ $\dfrac{6x}{x+4}$

21) $\dfrac{x-8}{x^2-2x-48} \div \dfrac{1}{x+3}$ $\dfrac{x+3}{x+6}$

22) $\dfrac{n+8}{9n^2-18n} \div \dfrac{1}{n-2}$ $\dfrac{n+8}{9n}$

23) $\dfrac{10x+70}{7-x} \div \dfrac{x+7}{x-7}$

    -10

24) $\dfrac{a-10}{3-a} \div \dfrac{1}{9a^3-27a^2}$

    $-9a^2(a-10)$

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Simplify each expression.

1) $\dfrac{10n^2 + 4n}{30n + 12} \div \dfrac{n + 1}{6}$

2) $\dfrac{5x^2}{x - 6} \div \dfrac{7}{7x - 42}$

3) $\dfrac{12x - 28}{4} \div \dfrac{27x - 63}{x - 9}$

4) $\dfrac{r^2 + 3r - 10}{r - 9} \div \dfrac{2r + 10}{r - 9}$

5) $\dfrac{3n}{6n^2 + 12n} \div \dfrac{1}{n + 2}$

6) $\dfrac{n^2 + 4n - 60}{60 - 4n - n^2} \div \dfrac{1}{n - 9}$

7) $\dfrac{1}{m^2 - 100} \div \dfrac{m + 6}{m^2 + 18m + 80}$

8) $\dfrac{4x^2 - 24x}{3} \div \dfrac{x^2 - 4x - 12}{x + 2}$

9) $\dfrac{n + 2}{n^2 + 11n + 18} \div \dfrac{1}{n - 2}$

10) $\dfrac{9v^2 - 27v}{v + 2} \div \dfrac{v - 3}{9}$

11) $\dfrac{n + 8}{3n - 3} \div \dfrac{1}{n - 1}$

12) $\dfrac{1}{4x} \div \dfrac{x + 8}{4x^2 + 16x}$

13) $\dfrac{18x - 3x^2}{3x} \div \dfrac{x - 6}{7}$

14) $\dfrac{x^2 - 5x + 6}{5x^2} \div \dfrac{x + 3}{5x^2}$

15) $\dfrac{a - 2}{5a} \div \dfrac{a + 1}{5a^2 + 5a}$

16) $\dfrac{1}{x + 5} \div \dfrac{x + 9}{x^2 - 25}$

17) $\dfrac{8n + 48}{8n - 24} \div \dfrac{n + 6}{10n}$

18) $\dfrac{3n^3 - 6n^2}{3n^2} \div \dfrac{n - 2}{n - 3}$

19) $\dfrac{x - 3}{5x + 15} \div \dfrac{x - 3}{10}$

20) $\dfrac{9n + 63}{n + 7} \div \dfrac{9}{n + 4}$

21) $\dfrac{r - 6}{50r + 70} \div \dfrac{2r}{50r + 70}$

22) $\dfrac{8n + 64}{n + 8} \div \dfrac{5n^2}{5n}$

23) $\dfrac{2v^2}{24 - 8v} \div \dfrac{4}{8v - 24}$

24) $\dfrac{a - 4}{10a - 40} \div \dfrac{1}{10a - 40}$

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Simplify each expression.

1) $\dfrac{10n^2 + 4n}{30n + 12} \div \dfrac{n + 1}{6}$ $\dfrac{2n}{n + 1}$

2) $\dfrac{5x^2}{x - 6} \div \dfrac{7}{7x - 42}$

     $5x^2$

3) $\dfrac{12x - 28}{4} \div \dfrac{27x - 63}{x - 9}$ $\dfrac{x - 9}{9}$

4) $\dfrac{r^2 + 3r - 10}{r - 9} \div \dfrac{2r + 10}{r - 9}$ $\dfrac{r - 2}{2}$

5) $\dfrac{3n}{6n^2 + 12n} \div \dfrac{1}{n + 2}$ $\dfrac{1}{2}$

6) $\dfrac{n^2 + 4n - 60}{60 - 4n - n^2} \div \dfrac{1}{n - 9}$

     $-(n - 9)$

7) $\dfrac{1}{m^2 - 100} \div \dfrac{m + 6}{m^2 + 18m + 80}$ $\dfrac{m + 8}{(m - 10)(m + 6)}$

8) $\dfrac{4x^2 - 24x}{3} \div \dfrac{x^2 - 4x - 12}{x + 2}$ $\dfrac{4x}{3}$

9) $\dfrac{n + 2}{n^2 + 11n + 18} \div \dfrac{1}{n - 2}$ $\dfrac{n - 2}{n + 9}$

10) $\dfrac{9v^2 - 27v}{v + 2} \div \dfrac{v - 3}{9}$ $\dfrac{81v}{v + 2}$

11) $\dfrac{n + 8}{3n - 3} \div \dfrac{1}{n - 1}$ $\dfrac{n + 8}{3}$

12) $\dfrac{1}{4x} \div \dfrac{x + 8}{4x^2 + 16x}$ $\dfrac{x + 4}{x + 8}$

13) $\dfrac{18x - 3x^2}{3x} \div \dfrac{x - 6}{7}$

     -7

14) $\dfrac{x^2 - 5x + 6}{5x^2} \div \dfrac{x + 3}{5x^2}$ $\dfrac{(x - 2)(x - 3)}{x + 3}$

15) $\dfrac{a - 2}{5a} \div \dfrac{a + 1}{5a^2 + 5a}$

     $a - 2$

16) $\dfrac{1}{x + 5} \div \dfrac{x + 9}{x^2 - 25}$ $\dfrac{x - 5}{x + 9}$

17) $\dfrac{8n + 48}{8n - 24} \div \dfrac{n + 6}{10n}$ $\dfrac{10n}{n - 3}$

18) $\dfrac{3n^3 - 6n^2}{3n^2} \div \dfrac{n - 2}{n - 3}$

     $n - 3$

19) $\dfrac{x - 3}{5x + 15} \div \dfrac{x - 3}{10}$ $\dfrac{2}{x + 3}$

20) $\dfrac{9n + 63}{n + 7} \div \dfrac{9}{n + 4}$

     $n + 4$

21) $\dfrac{r - 6}{50r + 70} \div \dfrac{2r}{50r + 70}$ $\dfrac{r - 6}{2r}$

22) $\dfrac{8n + 64}{n + 8} \div \dfrac{5n^2}{5n}$ $\dfrac{8}{n}$

23) $\dfrac{2v^2}{24 - 8v} \div \dfrac{4}{8v - 24}$ $-\dfrac{v^2}{2}$

24) $\dfrac{a - 4}{10a - 40} \div \dfrac{1}{10a - 40}$

     $a - 4$

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Simplify each expression.

1) $\dfrac{b+3}{2b^2+6b} \div \dfrac{b+3}{2b^2+6b}$

2) $\dfrac{k^2-3k-54}{k^2+8k+12} \div \dfrac{1}{k+1}$

3) $\dfrac{9n+63}{2} \div \dfrac{9n+63}{n-10}$

4) $\dfrac{1}{r+5} \div \dfrac{r+1}{9r+45}$

5) $\dfrac{x+3}{x^2+7x+12} \div \dfrac{1}{x^2-3x-28}$

6) $\dfrac{2}{9x^3-72x^2} \div \dfrac{x-5}{45x^2-9x^3}$

7) $\dfrac{k-9}{40k^3-72k^2} \div \dfrac{k-9}{40k^3-72k^2}$

8) $\dfrac{1}{r-10} \div \dfrac{r+6}{4r-40}$

9) $\dfrac{8}{4x^2} \div \dfrac{8x-48}{3}$

10) $\dfrac{63n-9n^2}{9n} \div \dfrac{n-7}{10}$

11) $\dfrac{r+6}{8r^2} \div \dfrac{21-9r}{24r^3-56r^2}$

12) $\dfrac{3}{3a+6} \div \dfrac{1}{a-9}$

13) $\dfrac{28x+24}{x+3} \div \dfrac{35x+30}{x+3}$

14) $\dfrac{x+2}{x^2-8x-20} \div \dfrac{1}{100-10x}$

15) $\dfrac{8x}{5x+30} \div \dfrac{1}{x^2+5x-6}$

16) $\dfrac{6n^3-36n^2}{n-5} \div \dfrac{6n^2}{n-5}$

17) $\dfrac{b-8}{b+9} \div \dfrac{b^2-9b+8}{b+5}$

18) $\dfrac{v-1}{3v-3} \div \dfrac{1}{4v}$

19) $\dfrac{n-5}{9n^3-9n^2} \div \dfrac{1}{9n^2}$

20) $\dfrac{1}{r-1} \div \dfrac{8r^2}{10r-10}$

21) $\dfrac{n-2}{n^2-4n-12} \div \dfrac{n-2}{3n-18}$

22) $\dfrac{3}{a+2} \div \dfrac{7a+21}{a^2+5a+6}$

23) $\dfrac{1}{r-3} \div \dfrac{6}{5r-15}$

24) $\dfrac{8}{12b^3+42b^2} \div \dfrac{8}{12b^2+42b}$

Algebra 1

Name_____

Assignment

Date_____ Period_____

Simplify each expression.

1) $\dfrac{b+3}{2b^2+6b} \div \dfrac{b+3}{2b^2+6b}$

$\color{red}1$

2) $\dfrac{k^2-3k-54}{k^2+8k+12} \div \dfrac{1}{k+1}$ $\quad \color{red}\dfrac{(k-9)(k+1)}{k+2}$

3) $\dfrac{9n+63}{2} \div \dfrac{9n+63}{n-10}$ $\quad \color{red}\dfrac{n-10}{2}$

4) $\dfrac{1}{r+5} \div \dfrac{r+1}{9r+45}$ $\quad \color{red}\dfrac{9}{r+1}$

5) $\dfrac{x+3}{x^2+7x+12} \div \dfrac{1}{x^2-3x-28}$

$\color{red}x-7$

6) $\dfrac{2}{9x^3-72x^2} \div \dfrac{x-5}{45x^2-9x^3}$ $\quad \color{red}-\dfrac{2}{x-8}$

7) $\dfrac{k-9}{40k^3-72k^2} \div \dfrac{k-9}{40k^3-72k^2}$

$\color{red}1$

8) $\dfrac{1}{r-10} \div \dfrac{r+6}{4r-40}$ $\quad \color{red}\dfrac{4}{r+6}$

9) $\dfrac{8}{4x^2} \div \dfrac{8x-48}{3}$ $\quad \color{red}\dfrac{3}{4x^2(x-6)}$

10) $\dfrac{63n-9n^2}{9n} \div \dfrac{n-7}{10}$

$\color{red}-10$

11) $\dfrac{r+6}{8r^2} \div \dfrac{21-9r}{24r^3-56r^2}$ $\quad \color{red}-\dfrac{(r+6)}{3}$

12) $\dfrac{3}{3a+6} \div \dfrac{1}{a-9}$ $\quad \color{red}\dfrac{a-9}{a+2}$

13) $\dfrac{28x+24}{x+3} \div \dfrac{35x+30}{x+3}$ $\quad \color{red}\dfrac{4}{5}$

14) $\dfrac{x+2}{x^2-8x-20} \div \dfrac{1}{100-10x}$

$\color{red}-10$

15) $\dfrac{8x}{5x+30} \div \dfrac{1}{x^2+5x-6}$ $\quad \color{red}\dfrac{8x(x-1)}{5}$

16) $\dfrac{6n^3-36n^2}{n-5} \div \dfrac{6n^2}{n-5}$

$\color{red}n-6$

17) $\dfrac{b-8}{b+9} \div \dfrac{b^2-9b+8}{b+5}$ $\quad \color{red}\dfrac{b+5}{(b+9)(b-1)}$

18) $\dfrac{v-1}{3v-3} \div \dfrac{1}{4v}$ $\quad \color{red}\dfrac{4v}{3}$

19) $\dfrac{n-5}{9n^3-9n^2} \div \dfrac{1}{9n^2}$ $\quad \color{red}\dfrac{n-5}{n-1}$

20) $\dfrac{1}{r-1} \div \dfrac{8r^2}{10r-10}$ $\quad \color{red}\dfrac{5}{4r^2}$

21) $\dfrac{n-2}{n^2-4n-12} \div \dfrac{n-2}{3n-18}$ $\quad \color{red}\dfrac{3}{n+2}$

22) $\dfrac{3}{a+2} \div \dfrac{7a+21}{a^2+5a+6}$ $\quad \color{red}\dfrac{3}{7}$

23) $\dfrac{1}{r-3} \div \dfrac{6}{5r-15}$ $\quad \color{red}\dfrac{5}{6}$

24) $\dfrac{8}{12b^3+42b^2} \div \dfrac{8}{12b^2+42b}$ $\quad \color{red}\dfrac{1}{b}$