

**Lessons 6.1-6.2**  
**Quiz - Form A**

**Unit 6**

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**Find the value(s) of the variable which make(s) each rational expression undefined:**

1.  $\frac{3x + 5}{4x - 12}$

2.  $\frac{t + 6}{t^2 + 8t + 12}$

**Multiply:**

3.  $(2x + 4) \cdot \frac{6x + 5}{5x - 3}$

**Simplify:**

4.  $\frac{3x^2 - 18x}{9x^2 - 3x}$

5.  $\frac{6x^2 - 28x - 48}{8x^2 - 38x - 60}$

**Lessons 6.1-6.2**  
**Quiz - Form B**

**Unit 6**

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**Find the value(s) of the variable which make(s) each rational expression undefined:**

1.  $\frac{12x^4 - 8x^3}{x^2 - 9}$

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

**Multiply:**

3.  $\frac{2a + 5}{4a - 7} \cdot \frac{4a - 3}{6a + 5}$

**Simplify:**

4.  $\frac{2b^2 - 7b - 15}{b^2 - 9b + 20}$

5.  $\frac{2x^2 + x - 6}{6x^2 - 19x + 15}$

**Lessons 6.3-6.4**  
**Quiz - Form A**

**Unit 6**

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**Simplify:**

1.  $\frac{3b - 12}{-8 + 6b - b^2}$

2.  $\frac{9x - 20 - x^2}{2x^2 - 13x + 15}$

3.  $\frac{-3a^2 - 10a + 8}{-4a - a^2}$

4.  $\frac{12x + 2x^2 - 4x^3}{6x^3 - 8x^2 - 8x}$

5.  $\frac{8 - 14x - 15x^2}{12 - 75x^2}$

6.  $\frac{28x^5y^4}{7x^3y^6}$

7.  $\frac{a^5b^2 - a^3}{a^4}$

8.  $\frac{24m^3 - 6rm^3}{3m^5r^2 - 48m^5}$

**Lessons 6.3-6.4**  
**Quiz - Form B**

**Unit 6**

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**Simplify:**

1.  $\frac{(-x + y)^2}{x^2 - 5xy + 4y^2}$

2.  $\frac{-2x^2 + 3x + 20}{2x^2 + 3x - 5}$

3.  $\frac{6a^2 - 7a - 20}{24 + 14a - 3a^2}$

4.  $\frac{-10m^3 + 25m^2 - 15m}{10m^4 + 15m^3 - 45m^2}$

5.  $\frac{18r^3 + 12r - 16r}{32r - 18r^3}$

6.  $\frac{15x^2y^5}{18x^7y}$

7.  $\frac{2a^7b^2 + 3a^6b^2}{4a^4b^9 + 6a^3b^9}$

8.  $\frac{5x^7 - 125x^5}{50x^3 + 15x^4 - 5x^5}$

**Lessons 6.5-6.6**  
**Quiz - Form A**

**Unit 6**

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**Simplify the product or quotient:**

1.  $\frac{a^2 - 2a - 8}{a^2 - a - 12} \cdot \frac{a^2 + a - 6}{a^2 - 6a + 8}$

2.  $\frac{5 - x}{x^2 - x - 20} \cdot \frac{2x^2 + 2x - 24}{x^2 - 2x - 3}$

3.  $\frac{9a^3b}{7 - x} \div \frac{3ab^7}{2x - 14}$

4.  $\frac{a^2 - a - 12}{2a^2 - 4a - 16} \div \frac{a^2 + a - 6}{a^2 - 6a + 8}$

5.  $\frac{q - 4}{1} \div \frac{q^2 - 8q + 16}{q} + \frac{q^2 - 3q}{q^2 - 7q + 12}$

**Lessons 6.5-6.6**  
**Quiz - Form B**

**Unit 6**

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**Simplify the product or quotient:**

1.  $\frac{5a^6b^3}{24} \cdot \frac{8}{25a^3b^4} \div \frac{a^6b^3}{15a^3b^4}$

2.  $\frac{35 - 2x - x^2}{2x^3 - 18x} \cdot \frac{3x^2 + 9x}{x + 7}$

3.  $\frac{a^2 - 7ab - 18b^2}{-a + 9b} \div \frac{a^2 - 4b^2}{3a - 6b}$

4.  $\frac{b^2 - 10b + 16}{2b^2 - 3b} \div \frac{b^2 - b - 56}{2b^2 + 11b - 21}$

5.  $\frac{a - 3}{1} \div \frac{a^2 - 6a + 9}{a} + \frac{6a^3 + 9a^2}{2a^2 - 3a - 9}$

**Lessons 6.7-6.8**  
**Quiz - Form A**

**Unit 6**

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**Divide:**

1.  $-36m^6 \div (-6m^4)$
2.  $(18r^4 - 42r^3) \div (3r^2)$
3.  $(6x^6 - 4x^3 + 8x^2 - 2x) \div (-2x)$
4.  $(6m^2 + 5m - 25) \div (3m - 5)$
5.  $(6x^3 - 22x + 1) \div (2x - 4)$
6.  $(12x^3 - 26x^2 + 5) \div (4x - 6)$

**Lessons 6.7-6.8**  
**Quiz - Form B**

**Unit 6**

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**Divide:**

1.  $24x^5 \div (-4x^2)$
2.  $(32m^5 - 16m^3) \div (4m^2)$
3.  $(12x^5 - 3x^4 - 27x^2 + 15x) \div (-3x)$
4.  $(8x^2 + 22x - 8) \div (2x + 5)$
5.  $(4m^3 - 52m - 48) \div (2m + 6)$
6.  $(18x^3 - 15x^2 - 10) \div (3x - 4)$



**Multiply:**

1.  $\frac{x+3}{2x-5} \cdot 7$

2.  $2p-5 \cdot \frac{p+3}{5p+8}$

**Find the value of  $x$  which makes the expression undefined:**

3.  $\frac{32x^2 + 16x - 54}{x^2 + x - 20}$

**Simplify:**

4.  $\frac{x^2 + 2x - 15}{3x^2 - 9x}$

5.  $\frac{a^2 - 7a + 12}{9a - 2a^2 - 9}$

6.  $\frac{4y^2 - 49}{2y^2 + y - 28}$

7.  $\frac{8 - 10k - 3k^2}{k^2 + 4k}$

8.  $\frac{9y^2 + 12y + 4}{16y - 3y^2 + 12}$

9.  $\frac{25x^7y^3}{5x^5y^9}$

10.  $\frac{g^4}{g^2h - g^2}$

11.  $\frac{y^5 - 8y^4 + 16y^3}{y^7 - 10y^6 + 24y^5}$

12.  $\frac{3a+18}{a^2-36} \cdot \frac{5a-30}{a}$

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Simplify:

13.  $\frac{a^2 + 12a + 35}{a^2 + 2a - 15} \cdot \frac{a^2 - 10a + 21}{a^2 + 3a - 28}$

14.  $\frac{20 + x - 12x^2}{8x^3 + 28x^2 + 20x} \cdot \frac{4x^4 - 25x^2}{6x^2 - 23x + 20}$

15.  $\frac{2a + 3}{4 - a^2} + \frac{8a + 12}{a - 2}$

16.  $\frac{-4 - 4z}{3z - 21} + \frac{16z^3 - 16z}{2z^2 - 12z - 14}$

17.  $\frac{10b^3}{b^2 + 10b} \cdot \frac{b^2 - 100}{b^2 - b - 90} + \frac{8b^3}{4b + 6}$

**Simplify:**

1.  $\frac{x+4}{2x-5} \cdot 8$

2.  $a + 6 \cdot \frac{a-4}{3a+2}$

**Find the value of  $x$  which makes the expression undefined:**

3.  $\frac{14x^2 + 3x - 28}{x^2 + 2x - 24}$

**Simplify:**

4.  $\frac{y^2 + 4y - 21}{3y^2 + 21y}$

5.  $\frac{x^2 - 8x + 16}{x^2 - 9x + 20}$

6.  $\frac{b^2 - 36}{2b^2 - 5b - 42}$

7.  $\frac{6 - 7k + 2k^2}{2k - k^2}$

8.  $\frac{9a^2 + 15a + 6}{9a^2 + 3a - 6}$

9.  $\frac{14x^{14}y^2}{7x^7y}$

10.  $\frac{r^6}{r^2k - r^2}$

11.  $\frac{b^5 - 7b^3 + 14b^2}{b^3 - 10b^2 + 20b}$

Simplify:

12.  $\frac{a^2 + 12a + 35}{a^2 + 2a - 15} + \frac{a^2 + 3a - 28}{a^2 - 10a + 21}$

13.  $\frac{3a + 18}{a^2 - 36} + \frac{a}{5a - 30}$

14.  $\frac{-4 - 4z}{3z - 21} \cdot \frac{2z^2 - 12z - 14}{16z^3 - 16z}$

15.  $\frac{10b^3}{b^2 + 10b} + \frac{b^2 - b - 90}{b^2 - 100} \cdot \frac{4b + 6}{8b^3}$

16.  $\frac{2a + 3}{4 - a^2} \cdot \frac{a - 2}{8a + 12}$

17.  $\frac{20 + x - 12x^2}{8x^3 + 28x^2 + 20x} + \frac{6x^2 - 23x + 20}{4x^4 - 25x^2}$