

### Climb The Ladder A

Multiply & Divide Rational Expressions

$$1. \quad \frac{(-2ab^2)^3}{20ab^4} \quad - \quad \frac{2a^2b^2}{5}$$

$$2. \quad \frac{8y^2(y^6)^3}{4y^{24}} \quad \frac{2}{y^4}$$

$$3. \quad \frac{24g^3}{5f^2} \cdot \frac{10(gf)^3}{8g^5f} \quad 6g$$

$$4. \quad \frac{5r^2}{r^2 - 4} \cdot \frac{r + 2}{10r^5} \quad \frac{1}{2r^3(r - 2)}$$

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### Climb The Ladder B

Multiply & Divide Rational Expressions

1.  $\frac{3m^3 - 3m}{6m^4} \cdot \frac{4m^5}{m + 1}$

$$2m^2(m-1)$$

2.  $\frac{x^2 + x - 6}{x^2 - 6x - 27}$

$$\frac{x - 2}{x - 9}$$

3.  $\frac{4x^2 - 12x + 9}{9 - 6x}$

$$\frac{3 - 2x}{3}$$

4.  $\frac{3a^2 - 24a}{3a^2 + 12a}$

$$\frac{a - 8}{a + 4}$$

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### Climb The Ladder C

Multiply & Divide Rational Expressions

$$1. \quad \frac{\frac{c^2y}{2d^2}}{\frac{-c^6}{5d}} - \frac{5y}{2c^4d}$$

$$2. \quad \frac{\frac{a^2 - b^2}{4a}}{\frac{a + b}{2a}} \cdot \frac{(a - b)}{2}$$

$$3. \quad \frac{x^2 - 5x + 4}{2x - 8} \div (3x^2 - 3x) \cdot \frac{1}{6x}$$

$$4. \quad \frac{16a^2 + 40a + 25}{3a^2 - 10a - 8} \div \frac{4a + 5}{a^2 - 8a + 16} = \frac{(4a + 5)(a - 4)}{3a + 2}$$

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### Climb The Ladder D

Find the LCM of each set of polynomials.

1.  $14ab^2, 42bc^3, 18a^2c$

**$126a^2b^2c^3$**

2.  $8cdf^3, 28c^2f, 35d^4f^2$

**$280c^2d^4f^3$**

3.  $x^2 + 3x, 10x^2 + 25x - 15$

**$5x(x + 3)(2x - 1)$**

4.  $22x^2 + 66x - 220, 4x^2 - 16$

**$44(x - 2)(x + 2)(x + 5)$**

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### Climb The Ladder E

T8-2: I can add and subtract rational expressions.

1.  $\frac{3}{x} + \frac{5}{y}$

$$\frac{5x + 3y}{xy}$$

2.  $\frac{3}{8p^2r} + \frac{5}{4p^2r}$

$$\frac{13}{8p^2r}$$

3.  $\frac{2}{a+2} - \frac{3}{2a}$

$$\frac{a - 6}{2a(a + 2)}$$

4.  $\frac{5}{3b+d} - \frac{2}{3bd}$

$$\frac{15bd - 6b - 2d}{3bd(3b + d)}$$

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### Climb the Ladder F

T8-2: I can add and subtract rational expressions.

$$1. \quad \frac{4z}{z-4} + \frac{z+4}{z+1}$$

$$\frac{5z^2 + 4z - 16}{(z-4)(z+1)}$$

$$2. \quad \frac{1}{x^2 + 2x + 1} + \frac{x}{x+1} \quad \frac{x^2 + x + 1}{(x+1)^2}$$

$$3. \quad \frac{n}{n-3} + \frac{2n+2}{n^2 - 2n - 3}$$

$$\frac{n+2}{n-3}$$

$$4. \quad \frac{3t}{2-x} + \frac{5}{x-2}$$

$$\frac{5-3t}{x-2}$$

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$$\frac{n+2}{n-3}$$

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$$\frac{5-3t}{x-2}$$

### Climb the Ladder G

T8-3 I can solve rational equations.

1.  $\frac{2y}{3} - \frac{y+3}{6} = 2$

**5**

2.  $\frac{2x+1}{3} - \frac{x-5}{4} = \frac{1}{2}$

**$-\frac{13}{5}$**

3.  $\frac{3m+2}{5m} + \frac{2m-1}{2m} = 4$

**$-\frac{1}{24}$**

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

**$\pm 7$**

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**$-\frac{1}{24}$**

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**$\pm 7$**

### Climb the Ladder H

T8-3 I can solve rational equations.

1.  $8 - \frac{4}{z} = \frac{8z - 8}{z + 2}$

$$\frac{2}{5}$$

2.  $\frac{1}{w + 2} + \frac{1}{w - 2} = \frac{4}{w^2 - 4}$

∅

3.  $\frac{-12}{y} = y - 7$

$$3, 4$$

4.  $\frac{c + 1}{c - 3} = 4 - \frac{12}{c^2 - 2c - 3} - \frac{5}{3}, 5$

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