

**Simplify:**

$$\frac{m^2 - m - 42}{m^2 + 10m + 24} = \frac{(m-7)(m+6)}{(m+6)(m+4)}$$

$$= \frac{m-7}{m+4}$$

**Simplify:**

$$\frac{6x+6}{6} \div \frac{x^2-1}{3}$$

$$\frac{6x+6}{6} \cdot \frac{3}{x^2-1} = \frac{\cancel{6}(x+1)}{\cancel{6}} \cdot \frac{3}{(x-1)(x+1)}$$

$$= \frac{3}{x-1}$$

# Adding/Subtracting Rational Expressions

Like Denominators



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**Add:**

$$\frac{1}{7} + \frac{5}{7} = \frac{6}{7}$$

$$\frac{3.2}{3.3} + \frac{1}{9}$$

$$-\frac{6}{9} + \frac{1}{9} = \left( \frac{-5}{9} \right)$$



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**Add:**

$$\frac{4}{x^2} + \frac{1}{x^2} = \frac{5}{x^2}$$



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**Add:**

$$\frac{1}{x} + \frac{1}{x} = \frac{2}{x}$$



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**Add:**

$$\frac{1}{2n} + \frac{5}{2n}$$

$$\frac{6}{2n} = \frac{3}{n}$$



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**Add:**

$$\frac{x}{y} + \frac{x}{y}$$

$$\frac{2x}{y}$$



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**Add:**

$$\frac{2x}{x+3} + \frac{5}{x+3} = \frac{2x+5}{x+3}$$



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**Add:**

$$\frac{x^2}{x-3} - \frac{9}{x-3} = \frac{x^2-9}{x-3}$$

$$\frac{(x+3)(x-3)}{x-3}$$

$$\frac{x+3}{1}$$



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**Add:**

$$\frac{7x}{x-4} + \frac{4x+12}{x-4} = \frac{11x+12}{x-4}$$

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**Add:**

$$\frac{9}{x-4} + \frac{2}{-1(4-x)} = \frac{9}{x-4} - \frac{2}{x-4}$$

$$= \frac{7}{x-4}$$

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**Add:**

$$\frac{6}{x-4} - \frac{3}{4-x}$$

$$\frac{9}{x-4}$$

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**Add:**

$$\frac{4x-3}{x+3} + \frac{2x+21}{x+3}$$


$$\frac{6x+18}{x+3}$$

$$\boxed{6}$$

$$\frac{6(x+3)}{x+3}$$

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## Add:



$$\frac{6x-5}{x-1} + \frac{x}{1-x}$$

Handwritten work in red ink:

$$\frac{6x-5}{x-1} - \frac{x}{x-1}$$

A circled 5 is written to the left of the second fraction.

$$\frac{5x-5}{x-1} = \frac{5(x-1)}{x-1}$$

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## Homework

- Worksheet

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Rest of the Year Timeline:

Friday, March 29: Adding and Subtracting Rational Expressions without Common Denominators

Tuesday, April 2: Graphing Rational Functions, Finding domain and range, vertical and horizontal asymptotes, and identifying holes

Thursday, April 4: Same as Tuesday

Tuesday, April 9: Solve Rational Equations

Thursday, April 11: Review Unit 7

Friday, April 12: Unit 7 Test

Tuesday, April 16: SUB DAY (Exam Review or Rational Expression Project)

Thursday, April 18: SUB DAY (Exam Review or Rational Expression Project)

Tuesday, April 23: Unit 8 - Sequences and Series