Today's Target

Simplify

\[-3z(2 - 3z)\]

\[3r + -2r(8r + 6)\]
\[\downarrow\]
\[3r + -16r^2 + -12r\]
\[-9r + -16r^2\]

Think back to our work with similar figures. What made two figures similar? Discuss both sides and angles.
**Similar:** Angles are the same. Corresponding sides are proportional.

**Congruent:** Corresponding sides and angles are equal.

Which are similar?

Congruent?
Corresponding Angles:
\( \angle ABC \cong \angle JKL \)

Corresponding Sides:
\( \overline{CB} \cong \overline{LK} \)

Translations and Reflections

I can translate a figure.

I can reflect a figure across the x-axis, y-axis, and/or any given horizontal or vertical line.
Translation -
To slide a figure up or down or left to right or both.

Reflection:
To flip a figure across the x or y axis or across any horizontal or vertical line.

translation: 3 units right and 4 units down
Translation: Add translation coordinates to preimage to get prime.
translation: \((4, -9)\)

Write a rule to describe each transformation.
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**Reflecting**

- **X-axis**
  - $A(4, -4) = A'(4, 4)$
  - $B(7, 7) = B'(7, -7)$
  - $y$ becomes opposite

- **Y-axis**
  - $A(4, -4) = A'(-4, -4)$
  - $x$ becomes opposite
reflection across the x-axis

reflection across the y-axis
Write a rule to describe each transformation.
Reflecting over lines other than axes

\[ x = \quad y = \]