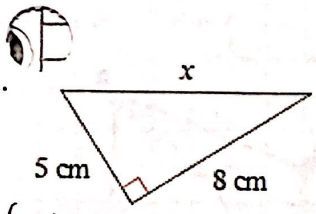
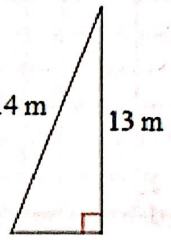
Pythagorean Theorem, Symmetry, and Transformation Rules

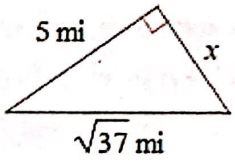
Solve for the missing side using the Pythagorean Theorem:

1. 

$(5)^2+(8)^2=(x^2)$
$25+64=x^2$
$89=x^2$
$x=\sqrt{89}$ cm

2. 

$(x)^2+(13)^2=(14)^2$
$x^2+169=196$
$x^2=27$
$x=\sqrt{27}$ m

3. 

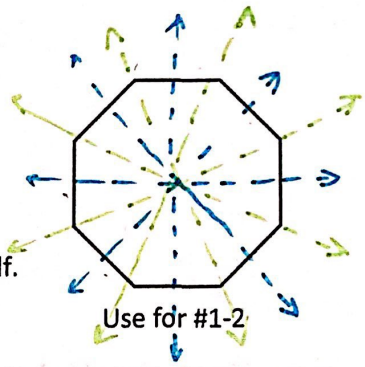
$(x)^2+(5)^2=(\sqrt{37})^2$
$x^2+25=37$
$x^2=12$
$x=\sqrt{12}$ mi

Symmetry of Quadrilaterals and Regular Polygons:

1. List **all** the angles of rotation less than 360° that will carry the figure onto itself.

$360/8=45$ $45°, 90°, 135°, 180°, 225°, 270°, 315°$

2. On the regular octagon, draw the lines of reflection (symmetry) that carry the figure onto itself.

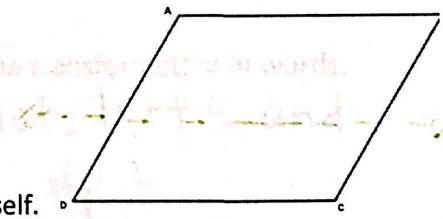

Use for #1-2

3. How many lines of reflection (symmetry) will a seven sided regular polygon have? 7

4. List **all** the angles of rotation less than 360° that will carry the figure onto itself.

180°

5. On the parallelogram, draw the lines of reflection (symmetry) that carry the figure onto itself.


Use for #4-5

*Not Regular ⇒ None

Other Review Materials:

Unit 1 Lesson 1 Translations Activity

Unit 1 Lesson 4 Reflections Activity

Memorize your rules for rotation 90°, 180°, and 270° and reflection over the x-axis, y-axis, $y = x$, and $y = -x$.
Review your vocabulary words (especially your definitions and properties of the rigid motion transformations)