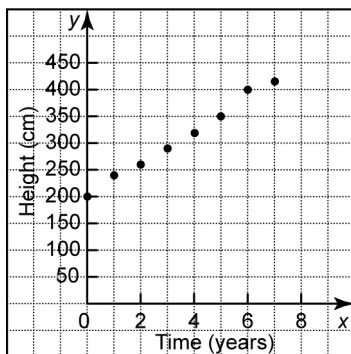Name: _____   Date: _____

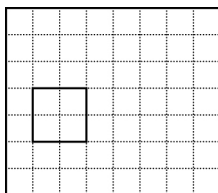# Get Ready

Scatter Plots

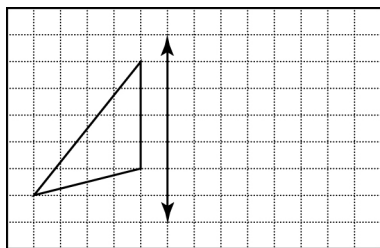**1.** The scatter plot shows the height of a maple tree over a period of 7 years.

a) Identify the independent variable and the dependent variable.
b) Describe the relationship between the variables.
c) Predict the height of the tree after 10 years.

Translations and Reflections

2. a) Translate the square 2 units up and 3 units to the right.

b) Reflect the triangle in the line of reflection and then translate it 2 units to the right.

3. a) Plot the rectangle with vertices $(-3, 1)$, $(2, 1)$, $(2, -3)$, and $(-3, -3)$ on a coordinate grid.
b) On the same grid, plot the image of the rectangle after a reflection in the y-axis.
c) On the same grid, plot the image of your rectangle in part b) after a translation of 2 units left and 1 unit up.

Operations With Powers

4. Use the exponent laws to write each as a single power.
a) $2^2 \times 2^3$
b) $3^4 \times 3^6$
c) $\left(\dfrac{1}{5}\right)^3 \times \left(\dfrac{1}{5}\right)^2$
d) $(-4)^4 \div (-4)^2$
e) $(3^2)^4$
f) $5^6 \div (5^2)^3$
g) $\left(\dfrac{2}{3}\right)^4 \div \left(\dfrac{2}{3}\right)^3$
h) $(-2)^4 \div (-2)^3$

5. Use the exponent laws to write each as a single power.
a) $3^4 \times 3^3 \div 3^2$
b) $(-7)^2 \times (-7) \div (-7)^2$
c) $(2^3)^5 \div (2^4)^2 \times 2$
d) $\left(\dfrac{3}{4}\right)^8 \div \left(\dfrac{3}{4}\right)^4 \div \left(\dfrac{3}{4}\right)^2$
e) $\dfrac{0.1^5 \div 0.1^3}{0.1^2}$
f) $\dfrac{[(-0.4)^2]^4}{(-0.4)^3 \times (-0.4)^2}$