Graphic Arts **Name** Key
Ratio & Proportion Quiz

1. A blueprint has a scale of 1": 5". How would you explain what the dimensions on the actual part would be?

1 inch on the drawing is equal to 5 inches on the part.

2. Adam wants a 5" (w) x 7" (h) photo reduced to fit into a graphic for a business card with a height of 1.5". What is the width of the reduced graphic?

width / height $\frac{5\text{ in}}{7\text{ in}} = \frac{x}{1.5\text{ in}}$

$\frac{7x}{7} = \frac{7.5}{7}$ $x = 1.07\text{ in}$

3. Alex wants an 8" x 10" graphic enlarged to fit into a graphic for a banner. The height of the graphic is 3 **feet**. What is the width of the enlarged graphic?

$3\text{ feet} \cdot \frac{12\text{ in}}{1\text{ ft}} = 36\text{ in}$

width / height $\frac{8''}{10''} = \frac{x}{36''}$

$\frac{10x}{10} = \frac{288}{10}$ $x = 28.8\text{ in}$ $28\frac{13}{16}\text{ in}$

4. A drawing has a scale of 1cm: 100 cm. If the length of a part on the drawing was 15 cm, what is the part's actual length? If the width of the actual part was 450 cm, what is the width on the drawing?

$15 \times 100 =$ 1500 cm length

$450 \div 100 =$ 4.5 cm width

5. Lisa plans to have a screened-in patio built on the back of her home. The patio floor plan will have the dimensions shown in the scale drawing below. If the scale of the drawing is .5 inches = 1 foot, what are the actual dimensions of the patio?

6 in.

8 in.

$\frac{.5\text{ in}}{1\text{ ft}} = \frac{8\text{ in}}{x}$

$\frac{8}{.5} = \frac{.5x}{.5}$ $x = 16$

$\frac{.5\text{ in}}{1\text{ ft}} = \frac{6\text{ in}}{y}$

$\frac{6}{.5} = \frac{.5y}{.5}$

$y = 12$

a. 12 feet by 9 feet
b. 18 feet by 14 feet
c. 16 feet by 16 feet
(d.) 16 feet by 12 feet