Bellwork Geometry Friday, February 28, 2020

1. Solve. $\frac{x+6}{3} = \frac{4}{x-5}$

2. A scale drawing of a house uses the following scale: 1.5in= 4 ft

a) A room is actually 10 ft x 15 ft. Find the dimensions of the room in the drawing.

b) The house is 25 inches long in the drawing find the actual length of the house.

3. A scale drawing of an insect has the following scale: 9:2

a) The insect is actually 3 cm long find the length of the insect in the drawing.

b) The antennae in the drawing are 4cm long. How long are the antennae on the real insect?

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ANSWERS

1. Solve. $\frac{x+6}{3} = \frac{4}{x-5}$

	x	+6
x	x^2	+6x
-5	-5x	-30

$(x+6)(x-5) = 3 \cdot 4$

$x^2 + x - 30 = 12$

$-12 \quad -12$

$x^2 + x - 42 = 0$

$(x+7)(x-6) = 0$

-42, +7, -6, +1

$x = -7, 6$

2. A scale drawing of a house uses the following scale: 1.5in= 4 ft

a) A room is actually 10 ft x 15 ft. Find the dimensions of the room in the drawing.

L x W

FOR L: $\frac{1.5\text{in}}{4\text{ft}} = \frac{x}{10\text{ft}} \rightarrow 3.75\text{in}$

FOR W: $\frac{1.5\text{in}}{4\text{ft}} = \frac{x}{15\text{ft}} \rightarrow 5.625$

Dimensions of room in the drawing are 3.75in X 5.625in

b) The house is 25 inches long in the drawing find the actual length of the house.

$\frac{1.5\text{in}}{4\text{ft}} = \frac{25\text{in}}{x}$

$66.67 = 66\frac{2}{3}\text{ ft}$

3. A scale drawing of an insect has the following scale: 9:2

a) The insect is actually 3 cm long find the length of the insect in the drawing.

$\frac{9 \text{ drawing}}{2 \text{ actual}} = \frac{x}{3\text{cm}}$

Length in drawing = 13.5 cm

b) The antennae in the drawing are 4cm long. How long are the antennae on the real insect?

$\frac{9 \text{ drawing}}{2 \text{ actual}} = \frac{4\text{cm}}{x}$

real antennae Length = 0.89 cm