Chapter 7 Review

Target: _Analyze and discuss the key concepts of Chapter 7._

7.1 Ratios and Proportions

1. GAMES A video game store has 60 games to choose from, including 40 sports games. What is the ratio of sports games to video games?

$$\frac{40 \div 20}{60 \div 20} = \frac{2}{3}$$

2. The ratio of the measures of the three sides of a triangle is 3:7:5, and its perimeter is 156.8 meters. Find the measure of each side.

$3x + 7x + 5x = 156.8$ $x = 10.5$
$\frac{15x}{15} = \frac{156.8}{15}$ $31.5, 52.5, 73.5$

3. SCHOOL The ratio of male students to female students in the drama club at Campbell High School is 3:4. If the number of male students in the club is 18, predict the number of female students?
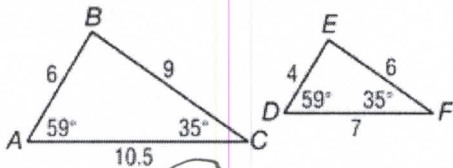
24

4. The ratio of the measures of the sides of a triangle is 3:5:7, and its perimeter is 450 centimeters. Find the measures of each side of the triangle.

$90, 150, 210$

7.2 Similar Polygons
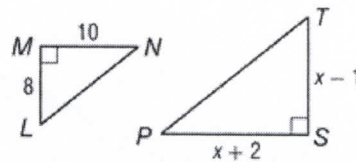
Determine whether each pair of figures is similar.

1.

$Yes \quad \frac{3}{2}$

Each pair of polygons is similar. Find the value of x.
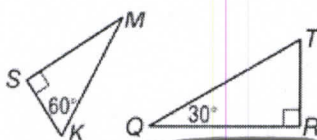
2.

$X = 13$

7.3 Similar Triangles

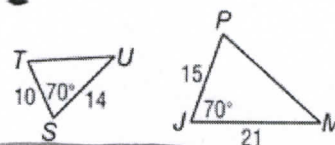Determine whether each pair of triangles is similar. Explain your reasoning.

1.

$Yes \; AA$

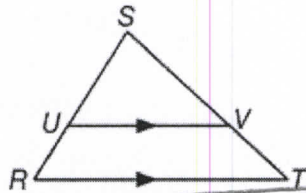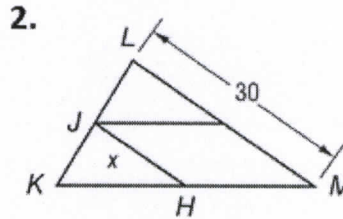Determine whether each pair of triangles is similar. Explain your reasoning.

2.

$Yes \; SAS$

7.4 Parallel Lines and Proportional Parts

1. If $RU=8$, $US=14$, $TV=x-1$, and $VS=17.5$, find x and TV.

$$X=11 \quad TV=10$$

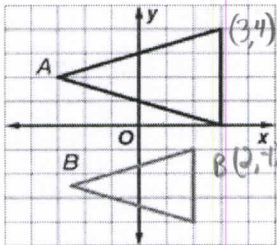$\overline{JH}$ is a midsegment of $\triangle KLM$. Find the value of x.

2.

$$X=15$$

7.6 Similarity Transformations

Determine whether the dilation from A to B is an *enlargement* or a *reduction*.

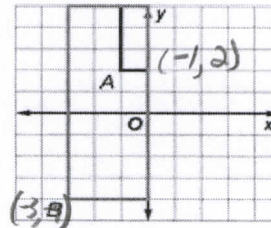Then find the scale factor of the dilation.

1.

reduction

$$\frac{2}{3}$$

Determine whether the dilation from A to B is an *enlargement* or a *reduction*.

Then find the scale factor of the dilation.

2.

Enlargement

$$\frac{-3}{-1}=3$$

7.7 Scale Drawings and Models

1. ARCHITECTURE An architect is making a scale model of an office building he wishes to construct. The model is 9 inches tall. The actual office building he plans to construct will be 75 feet tall.

a. What is the scale of the model?

$$\frac{3in}{25ft} \quad \frac{3in}{300in} \quad \frac{1}{100}$$

2. MODELS Luke wants to make a scale model of a Boeing 747 jetliner. He wants every foot of his model to represent 50 feet. Complete the following table.

Part	Actual length (in.)	Model length (in.)
Wing Span	2537	50.74
Length	2782	55.64
Tail Height	392	7.84