Chapter 7 Review

① Write as a ratio 2 different ways: In 2005, ARoD hit 48 homeruns in 605 at bats. Write a ratio of # at bats to homeruns.

605:48, 605 to 48, $\frac{605}{48}$

② Solve:

$$\frac{x-2}{4} = \frac{x+4}{2}$$

$$4(x+4) = 2(x-2)$$

$$4x+16 = 2x-4$$

$$-2x-16 \quad -2x-16$$

$$2x = -20 \quad \boxed{x=-10}$$

③ Solve: Eric is 4ft. tall and his dad is 6ft tall. In a photo of the two of them, Eric is 2in. tall. How tall is Eric's dad in the photo?

$$\frac{E}{D} \quad \frac{4ft}{6ft} = \frac{2in}{x}$$

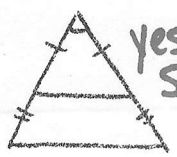
$$\frac{48in}{72in} = \frac{2in}{x} \qquad 144 = 48x \qquad \boxed{x = 3in}$$

④ Describe the differences and similarities between ~ figures and ≅ figures.

both have ≅ ∠s

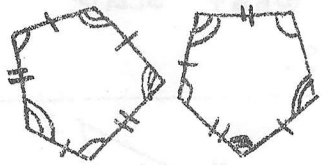
sides are not ≅, but rather proportional

⑤ Are these similar?



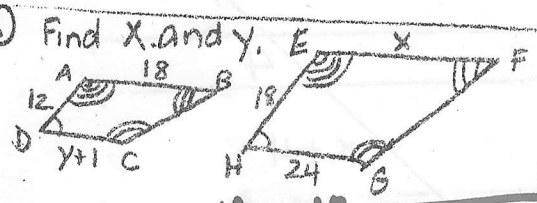
yes
SAS

NO



No

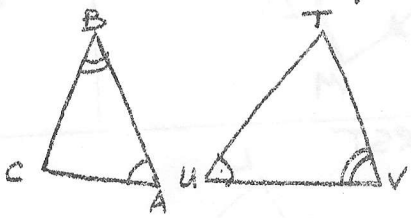
⑥ Find x and y.



ABCD ~ EFGH $\frac{12}{18} = \frac{18}{x}$ $\boxed{x=27}$

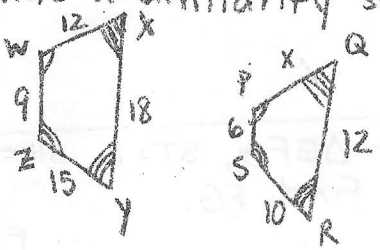
$\frac{12}{18} = \frac{y+1}{24}$ $\boxed{y=15}$

⑦ Are these similar? Justify.



yes
AA

⑧ Write a similarity statement, scale factor, find x.



WXYZ ~ PQRS

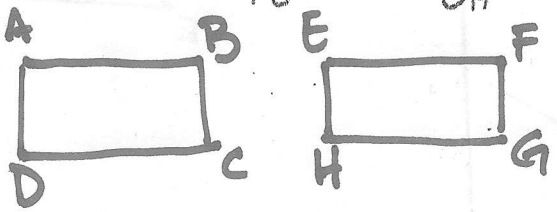
Scale factor: 1.5

$\frac{9}{6} = \frac{12}{x}$ $\boxed{x=8}$

⑨ In ▭ ABCD and ▭ EFGH I found the following. What does it mean?

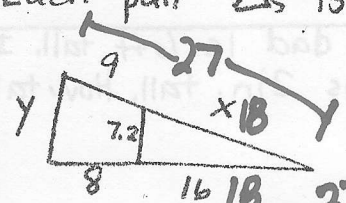
∠A ≅ ∠E
∠B ≅ ∠F
∠C ≅ ∠G
∠D ≅ ∠H

$\frac{AB}{EF} = .8$ $\frac{BC}{FG} = .8$ $\frac{CD}{GH} = .8$ $\frac{DA}{HE} = .8$



▭ABCD ~ ▭EFGH

(10) Each pair △s is similar. Find x and y.

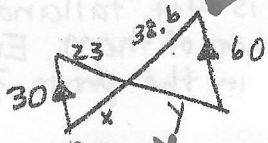


$\frac{x}{16} = \frac{9}{8}$

$\boxed{x=18}$

$\frac{18}{7.2} = \frac{27}{y}$

$\boxed{y=10.8}$

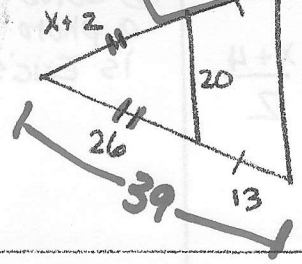


$\frac{30}{60} = \frac{x}{38.6}$

$\boxed{x=19.3}$

$\frac{30}{60} = \frac{y}{23}$

$\boxed{y=46}$



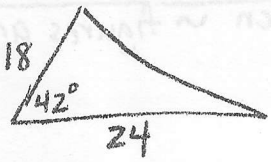
$x+2=26$

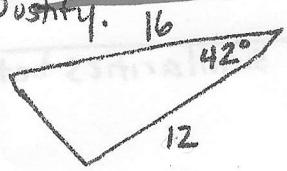
$\boxed{x=24}$

$\frac{26}{20} = \frac{39}{y}$

$\boxed{y=30}$

(11) Are these similar? Justify.





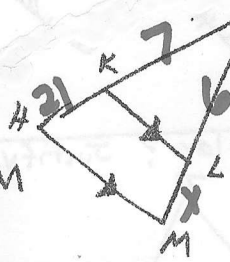
yes, SAS

$\frac{18}{12} = \frac{24}{16}$

288 288

(12) Explain what scale factor is. Ratio of Increase or decrease

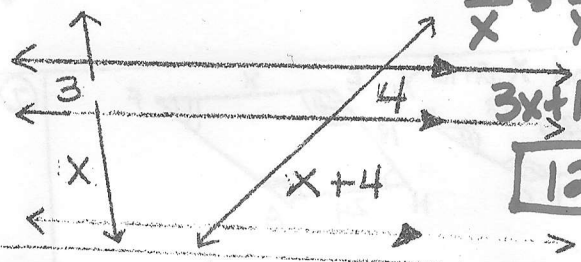
(13) JK = 7
KH = 21
JL = 6
Find LM



$\frac{7}{21} = \frac{6}{x}$

$\boxed{x=18}$

(14) Find x.

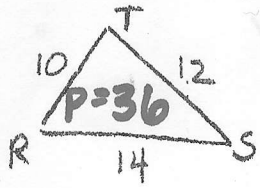


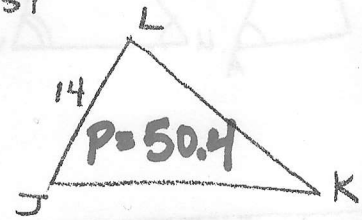
$\frac{3}{x} = \frac{4}{x+4}$

$3x+12=4x$

$\boxed{12=x}$

(15) △JKL ~ △RST

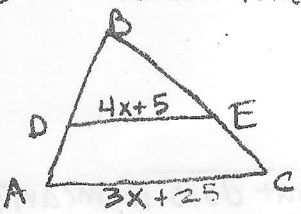




$\frac{10}{36} = \frac{14}{P}$

Find the perimeter of △JKL

(16) DE is a midsegment of △ABC. Find DE.



$2(4x+5) = 3x+25$

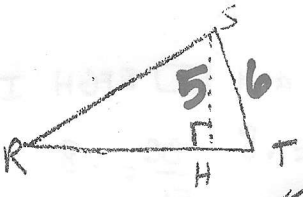
$8x+10 = 3x+25$

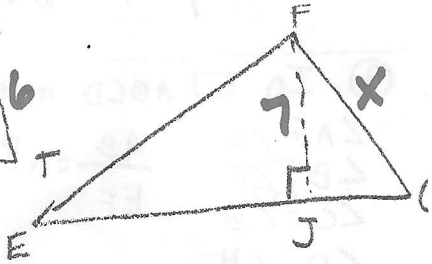
$5x=15$

$x=3$

$DE = 4(3)+5 = \boxed{17}$

△RST ~ △EFG, ST = 6, SH = 5, FJ = 7. Find FG.





$\frac{5}{7} = \frac{6}{x}$

$5x=42$

$\boxed{x=8.4}$