

NAME Key

Geometry B
Unit 8 Chapter 8 Similarity Review 2018-20

Simplify the following.

1.) $\frac{30}{18} = \boxed{\frac{5}{3}}$

2.) $\frac{48}{60} = \boxed{\frac{4}{5}}$

3.) $\frac{70 \text{ min}}{3 \text{ hrs}} = \frac{70 \text{ min}}{360 \text{ min}}$

$\boxed{\frac{7}{36}}$

4.) $\frac{5 \text{ weeks}}{21 \text{ days}} = \frac{35 \text{ days}}{21 \text{ days}}$

Proportions

5.) On a map of the United States, 3cm = 70 miles.

$\frac{\text{cm}}{\text{miles}}$

$\frac{3}{70} = \frac{30}{x}$

- a.) The distance from St. Louis to Dallas is 30 cm.
How many miles apart are the cities?

$3x = 2100$

$x = 700$

- b.) The distance from Miami to New Jersey is about 1300 miles.
How many centimeters apart should the cities be on a map? Round your answer to the nearest whole number.

$\frac{3}{70} = \frac{x}{1300}$

$3900 = 70x$

55.71 cm

Solve the following proportions.

6.) $\frac{x}{12} = \frac{9}{36}$

$x = 3$

7.) $\frac{8}{y} = \frac{64}{4}$

$32 = 64y$

$y = \frac{1}{2}$

8.) $\frac{3}{6} = \frac{5}{x+1}$

$3x+3=30$

$x = 9$

9.) $\frac{2-x}{3} = \frac{6}{1}$

$2-x=18$

$x = 16$

10. In a bag of Animal Crackers, there are 6 lions, 8 bears, 12 elephants and 1 camel.
What is the ratio of the following? (Simplify the ratios)

a. lions to bears

$\frac{6}{8} = \boxed{\frac{3}{4}}$

b. bears to elephants and camels

$\frac{8}{13}$

c. Elephants to bears

$\frac{12}{8} = \boxed{\frac{3}{2}}$

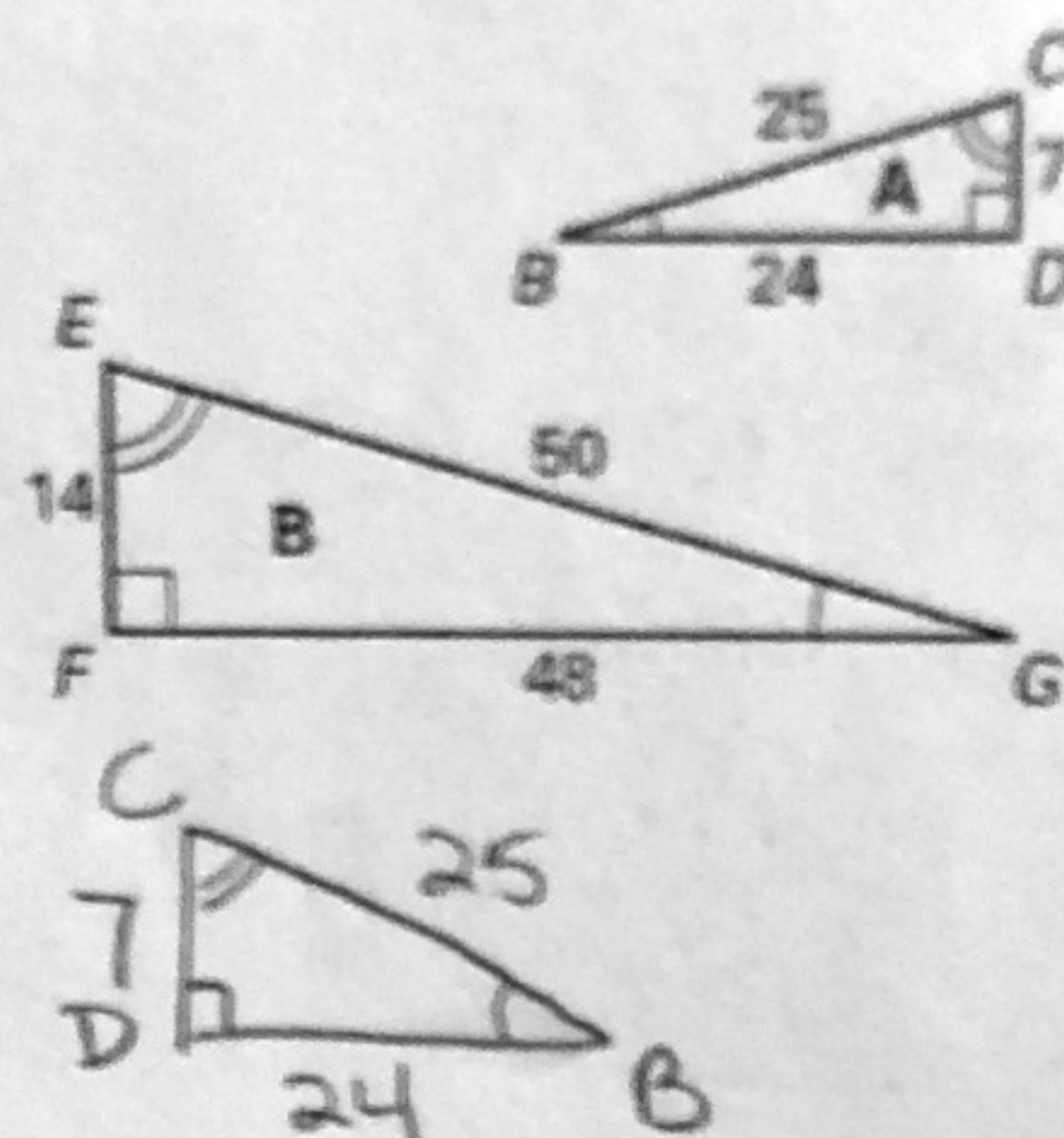
11. EFG is similar to CDB.

a.) List all pairs of congruent angles.

$$\angle E \cong \angle C, \angle F \cong \angle D, \angle G = \angle B$$

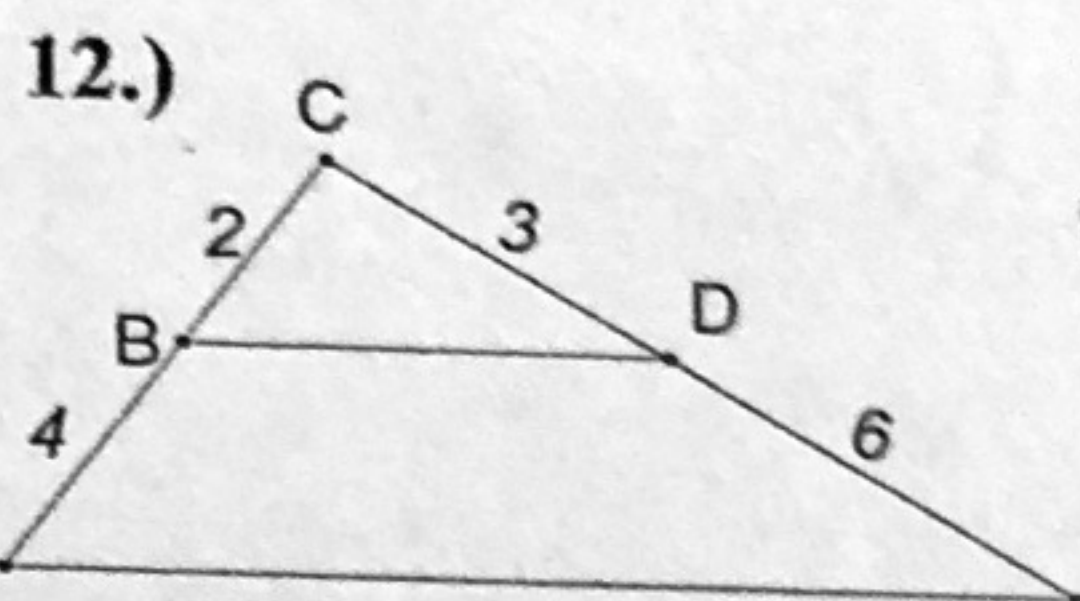
b.) Find the scale factor.

$$\frac{2}{1}$$



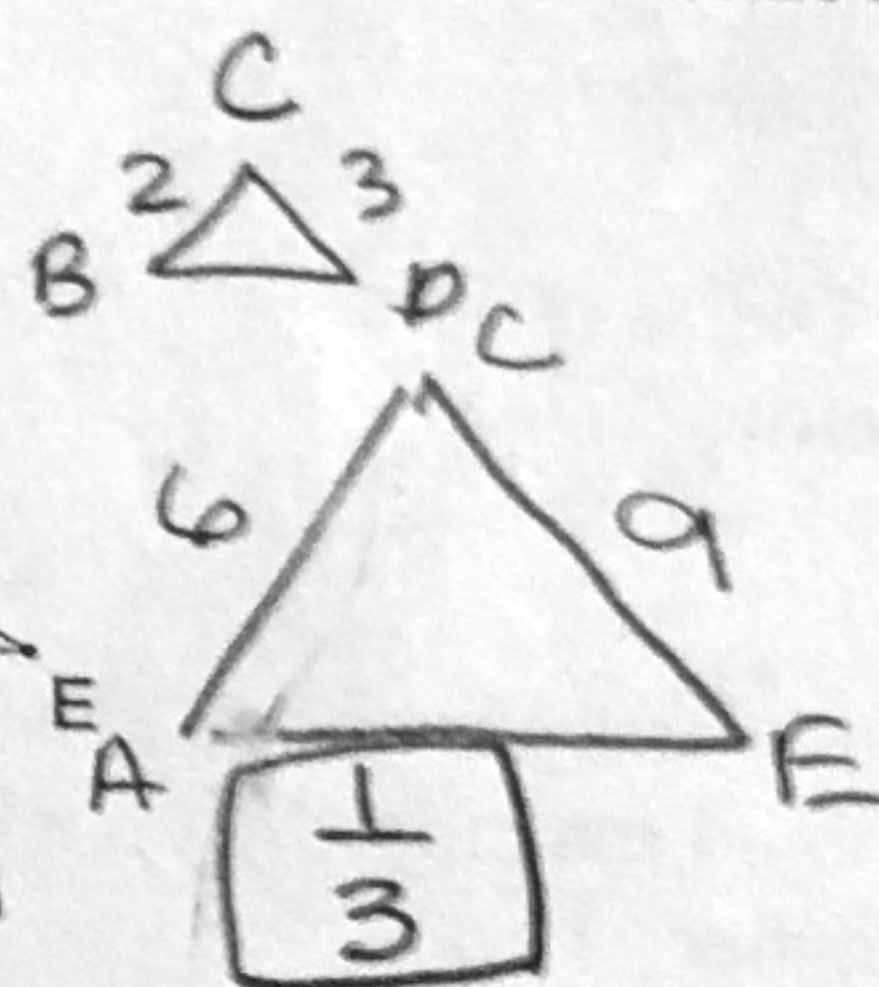
Determine if the following triangles are similar (AA, SSS, SAS). If so write a similarity statement, and if possible find the scale factor.

12.)

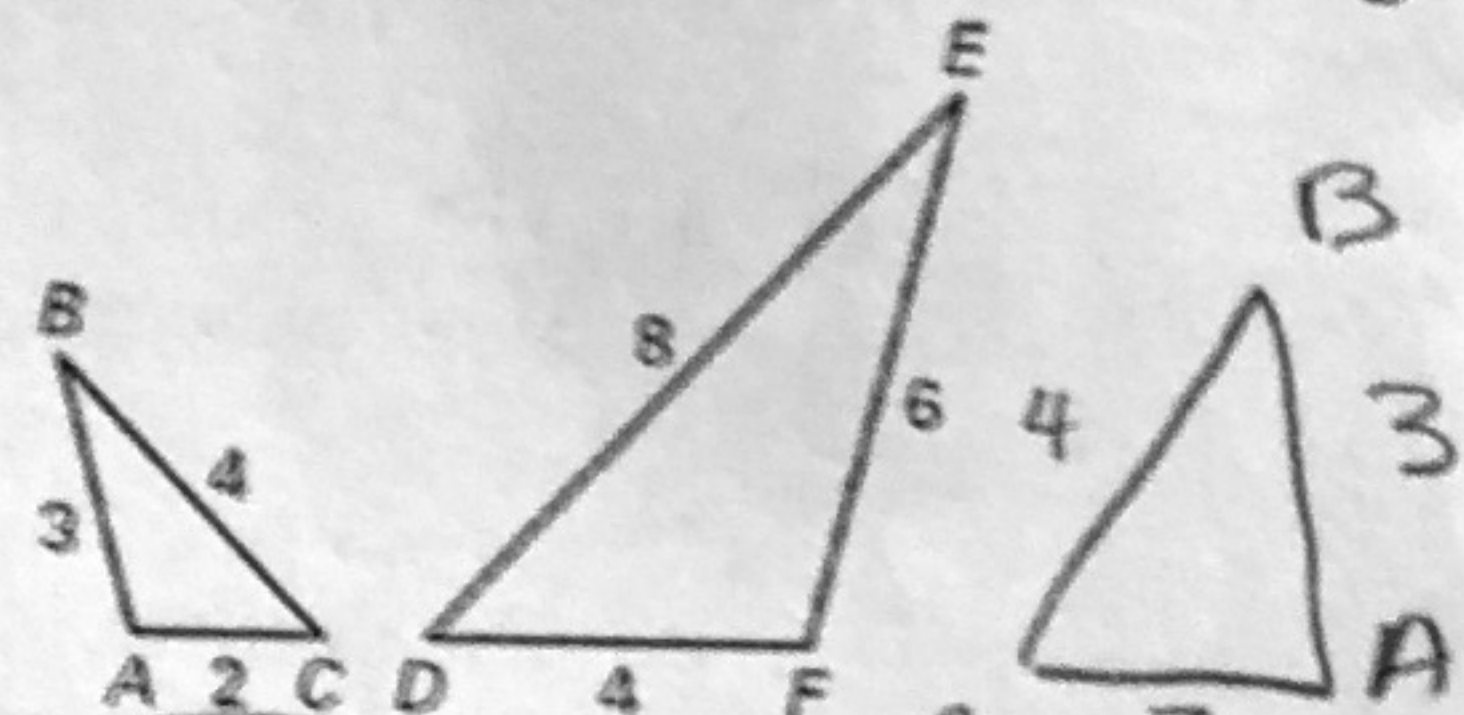


yes SAS

$$\frac{2}{6} = \frac{3}{9}$$



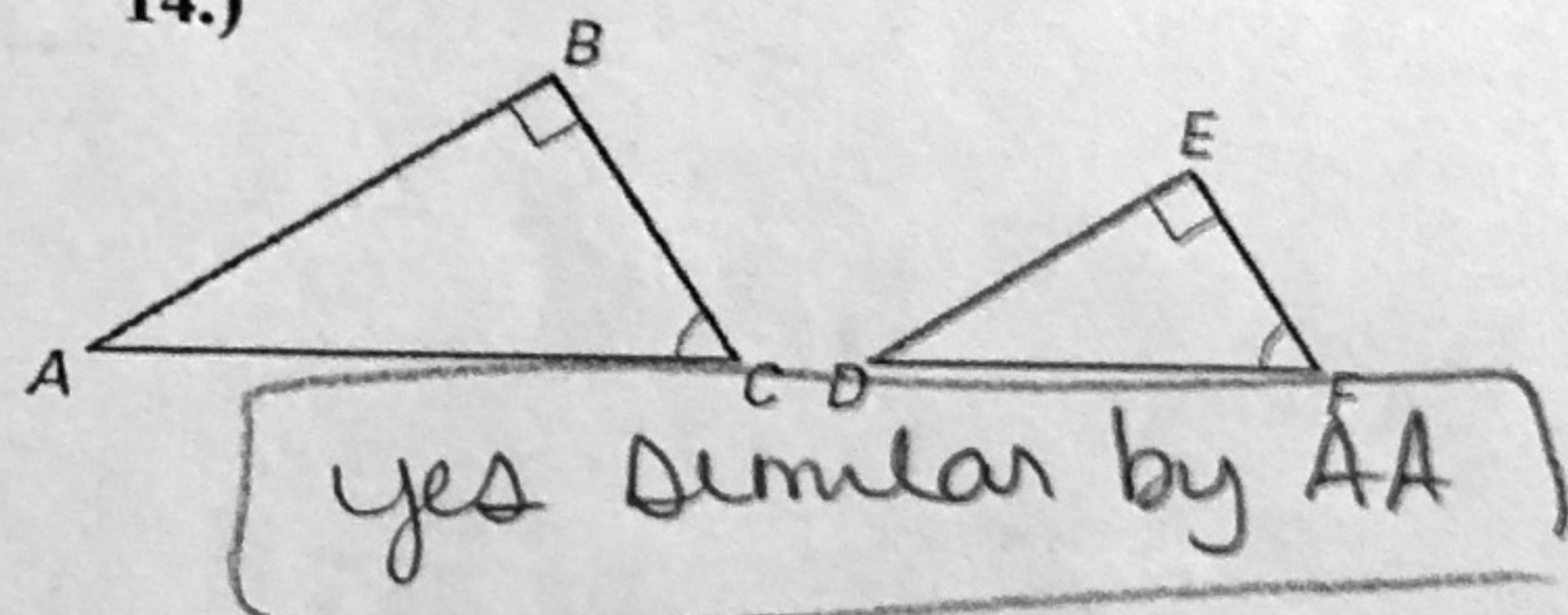
13.)



yes similar by SSS

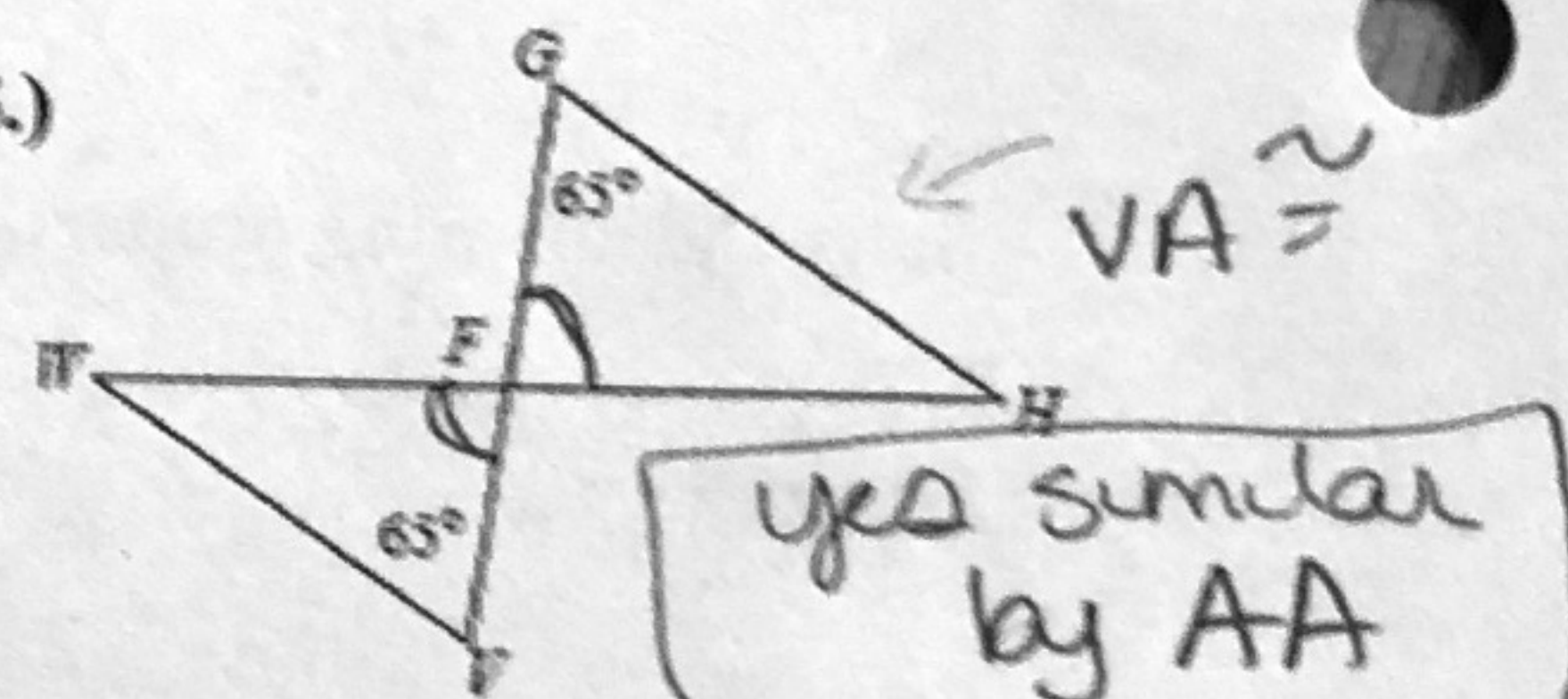
$$\frac{8}{4} = \frac{6}{3} = \frac{4}{2}$$

14.)



yes similar by AA

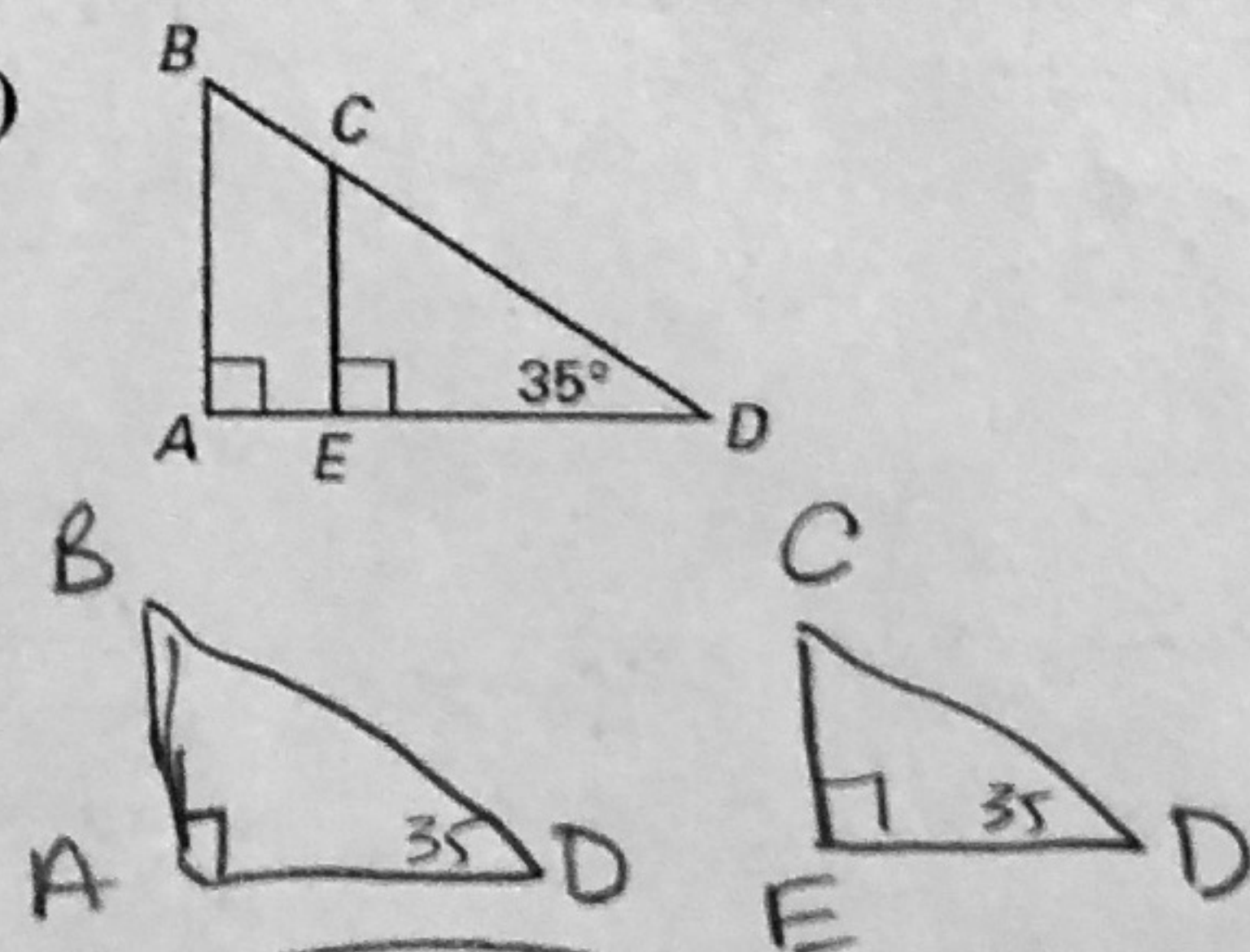
15.)



yes similar by AA

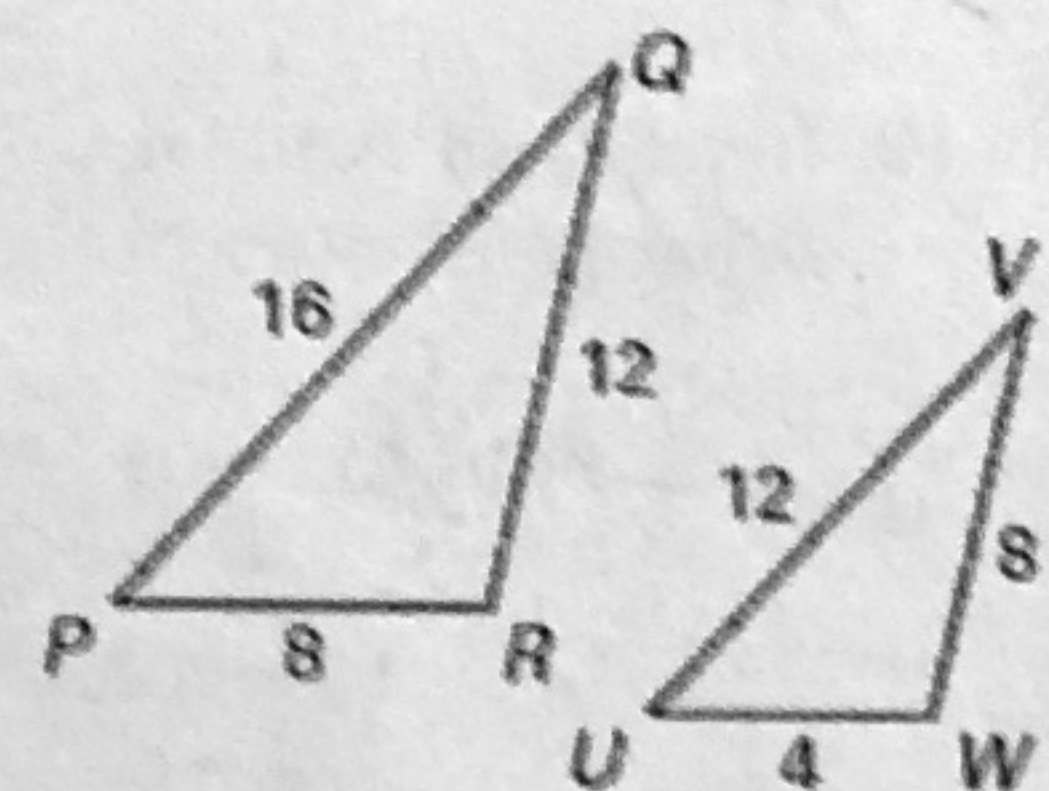
VA ~

16.)



yes similar by AA

17.)

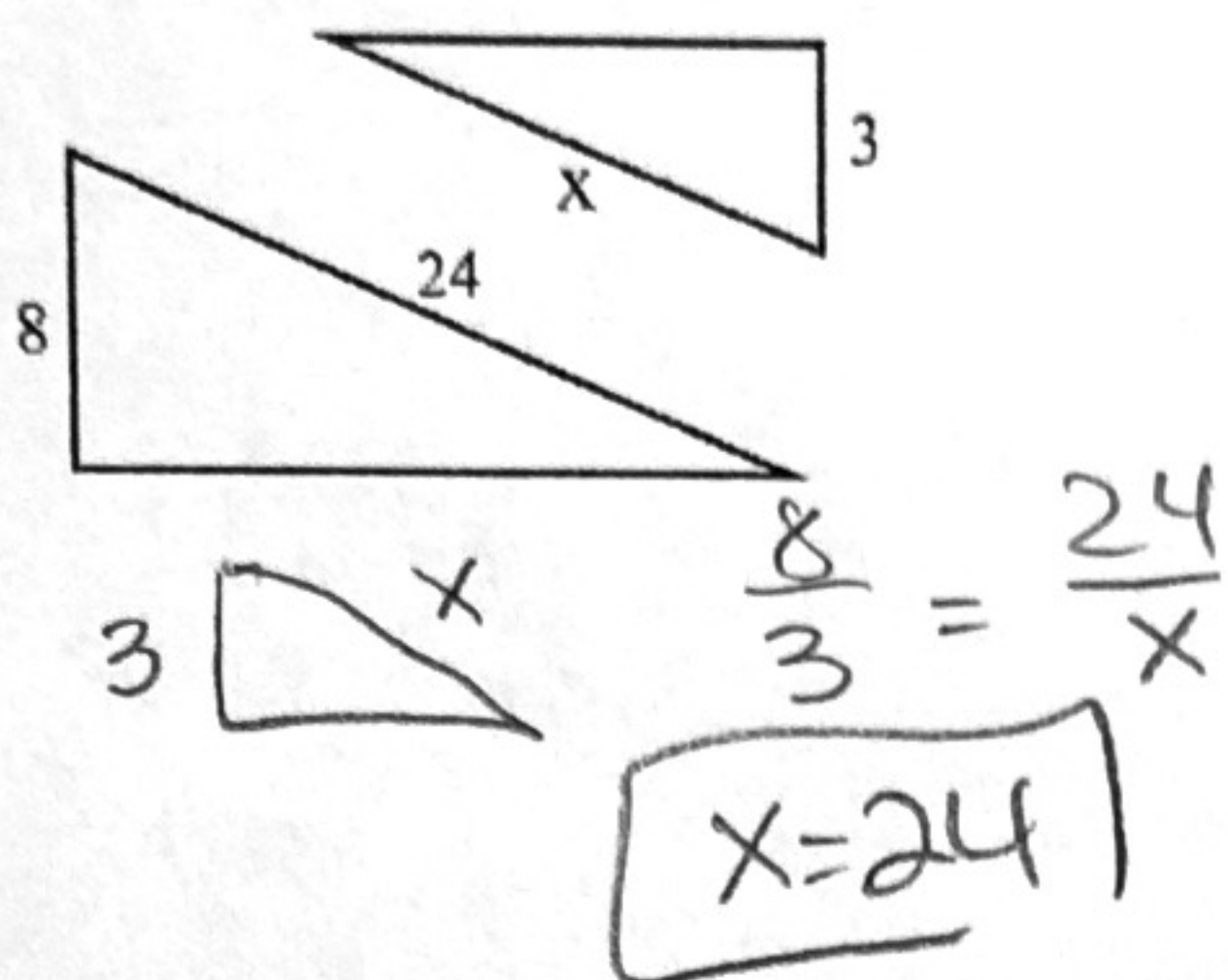


$$\frac{16}{12} \neq \frac{8}{4} \neq \frac{12}{8}$$

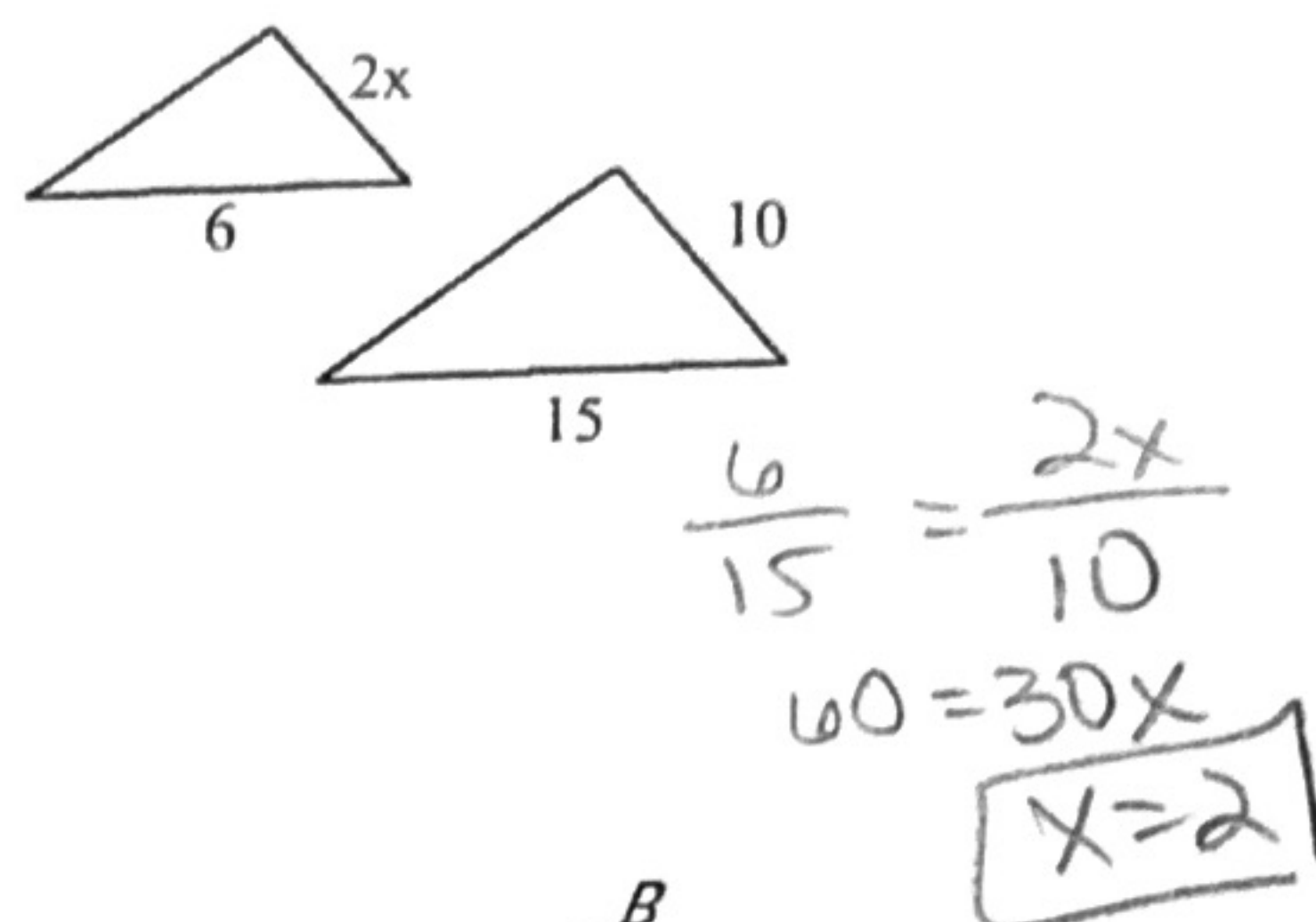
Not Similar

Given that the following pairs of triangles are similar. Create a proportion and solve for the variable.

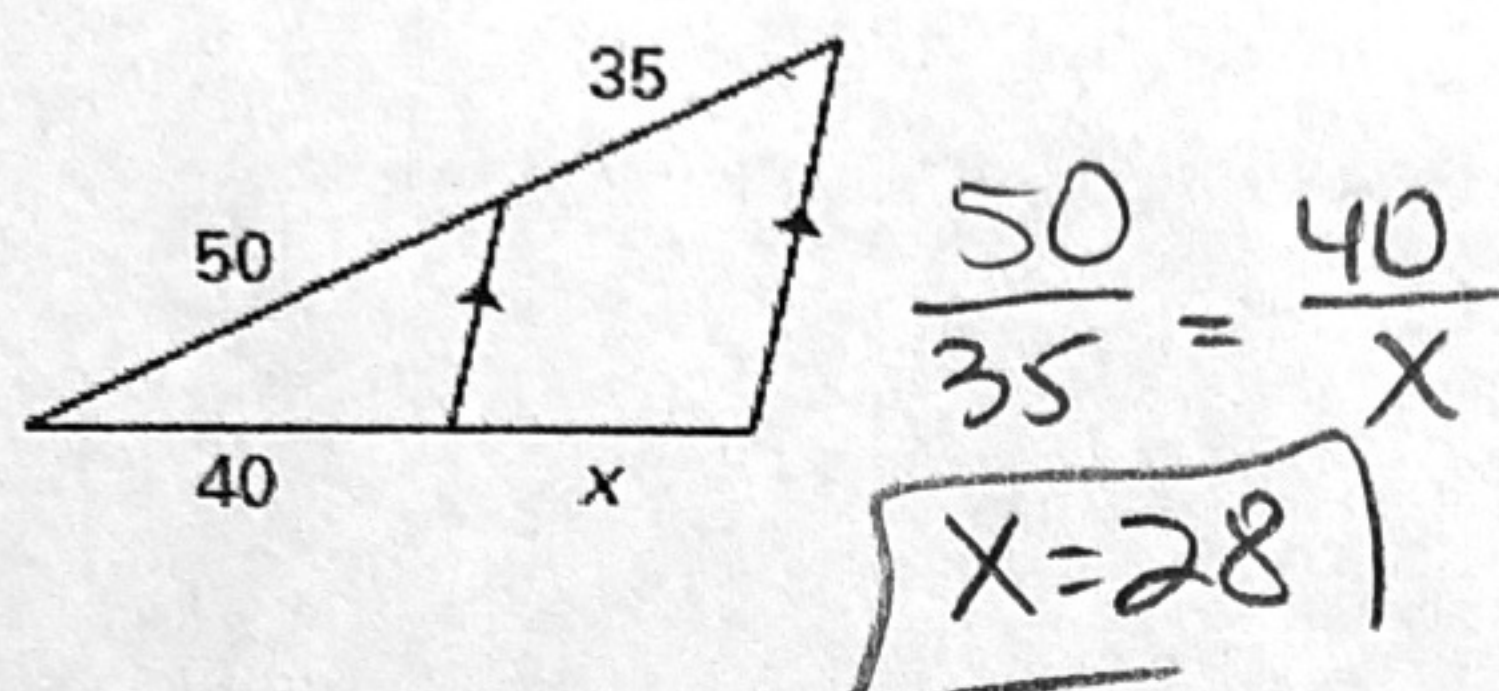
18.)



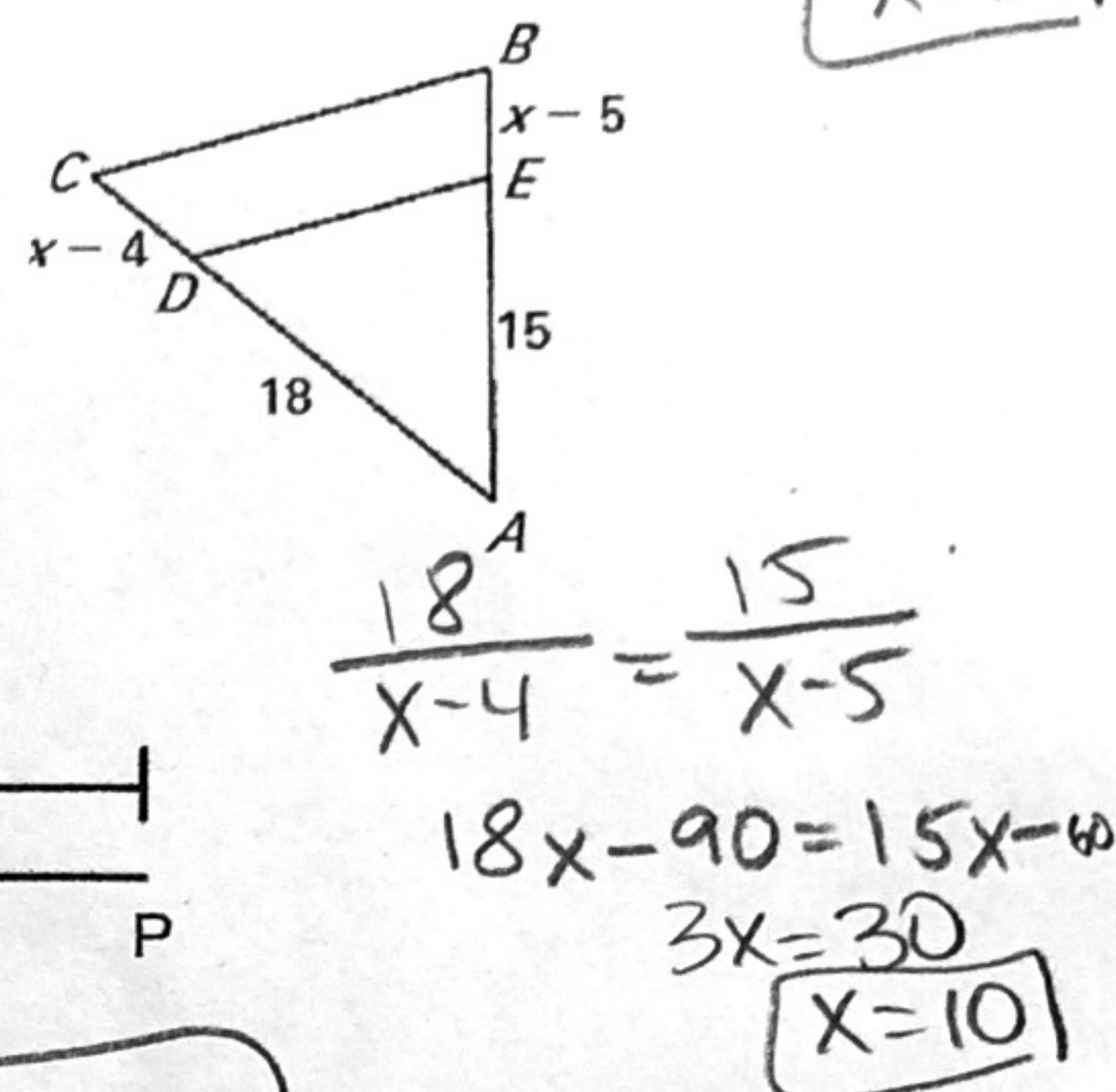
19.)



20.)



21.)



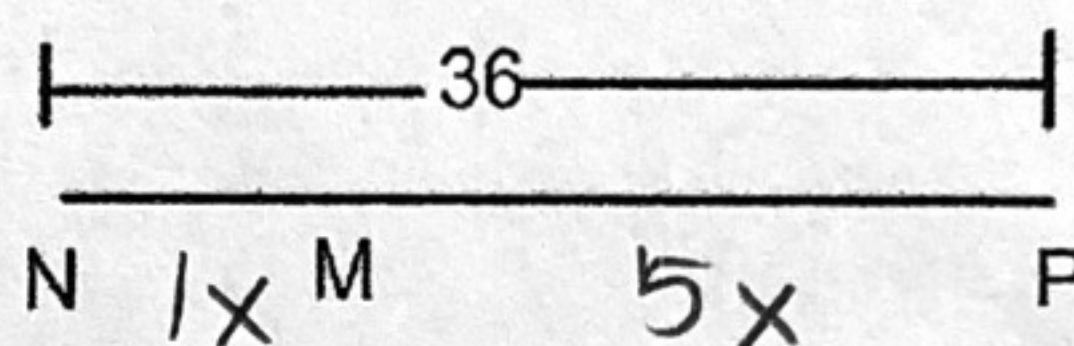
22.) In the diagram, NM:MP is 1:5 and NP = 36

Find NM and MP

$$x + 5x = 36$$

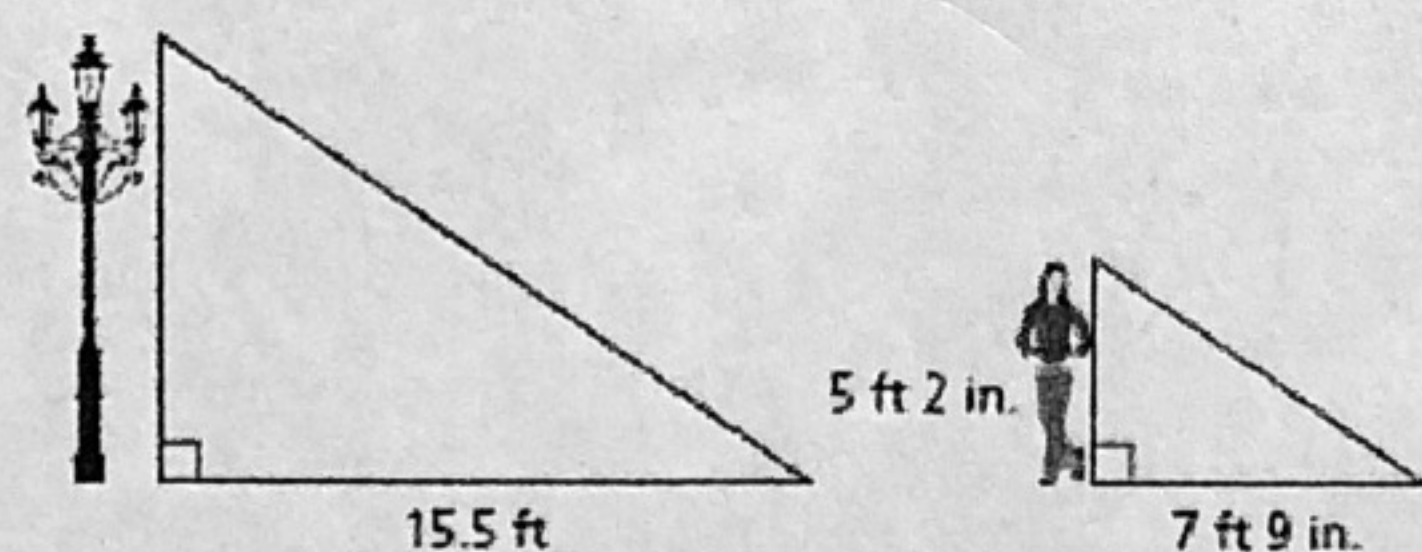
$$6x = 36$$

$$x = 6$$

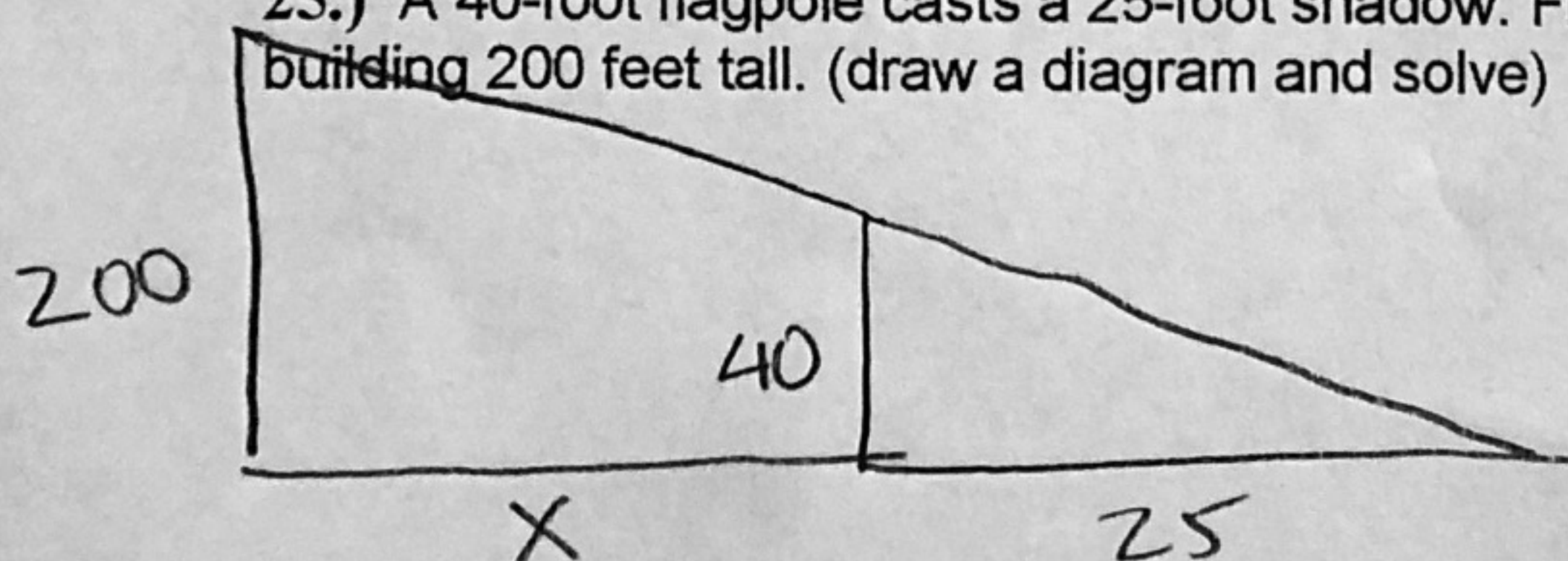


$$nm = 6 \quad mp = 30$$

24.) Jenny is 5 ft 2 in. tall. To find the height of a light pole, she measured her shadow and the pole's shadow. Find the height of the pole to the nearest foot. (Watch your units!)



25.) A 40-foot flagpole casts a 25-foot shadow. Find the shadow cast by a nearby building 200 feet tall. (draw a diagram and solve)



$$\frac{200}{40} = \frac{x}{25}$$

$$5000 = 40x$$

$$x = 125$$