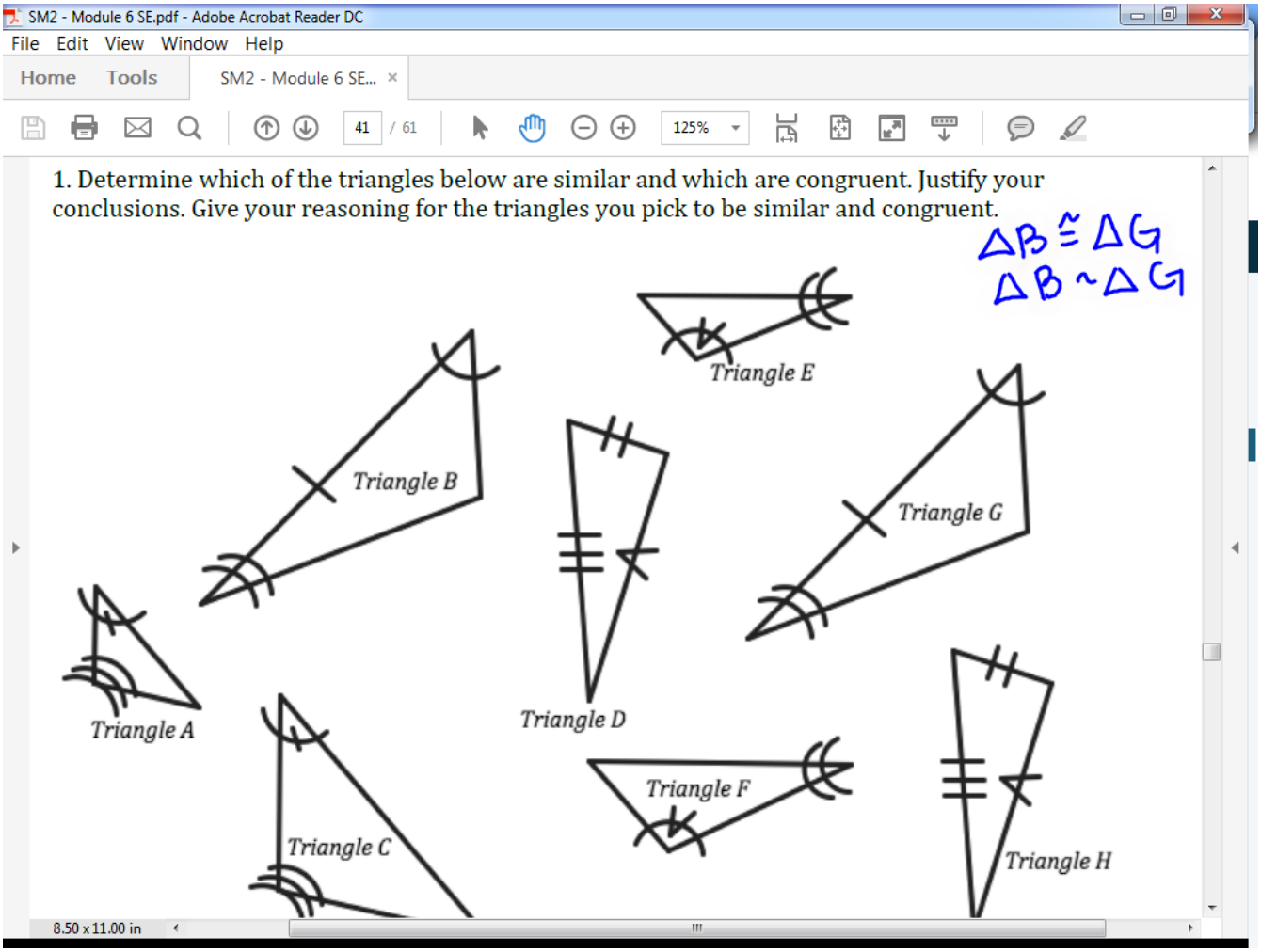
Questions on 6.7 HW? Quiz today, make sure you can set up and solve proportions from similar figures.

Apr 8-8:30 AM



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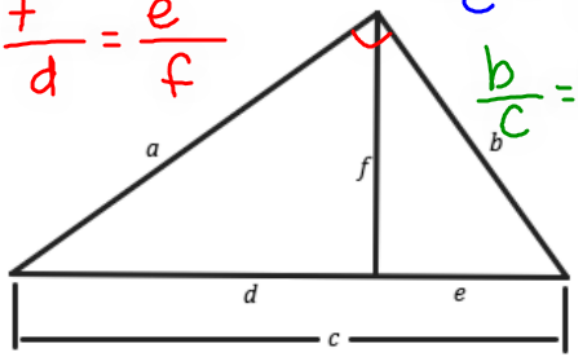
Use the given right triangles with altitudes drawn to the hypotenuse to correctly complete the proportions.

$\frac{a}{c} = \frac{d}{a}$

$\frac{f}{d} = \frac{e}{f}$

$\frac{b}{c} = \frac{e}{b}$



2. $\frac{a}{c} = \frac{f}{?}$

3. $\frac{a}{f} = \frac{c}{?}$

4. $\frac{a}{b} = \frac{f}{?}$

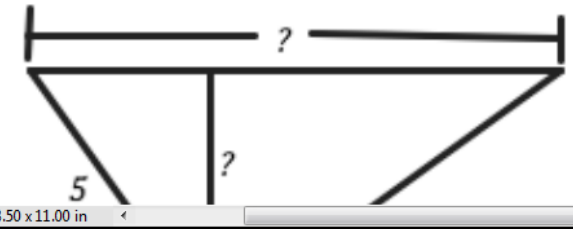
5. $\frac{a}{d} = \frac{c}{a}$

6. $\frac{f}{d} = \frac{e}{f}$

7. $\frac{b}{c} = \frac{e}{b}$

Find the missing value for each right triangle with altitude.

8.



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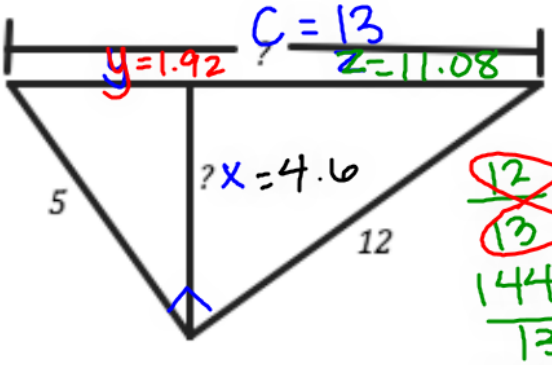
Find the missing value for each right triangle with altitude.

8.



$y = 13 - 11.08$

$c = 13$

$5^2 + 12^2 = c^2$

$25 + 144 = c^2$

$\sqrt{169} = \sqrt{c^2}$

$13 = c$

$\frac{5}{13} = \frac{y}{5}$

$\frac{12}{13} = \frac{z}{12}$

$144 = 13z$

$\frac{144}{13} = \frac{13z}{13}$

$11.08 = z$

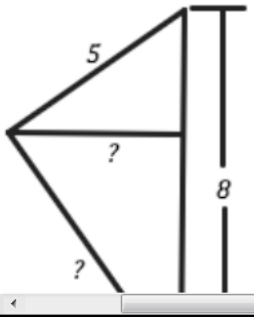
$\frac{x}{1.92} = \frac{11.08}{x}$

$1.92(11.08) = x^2$

$\sqrt{21.27} = \sqrt{x^2}$

$4.6 = x$

9.



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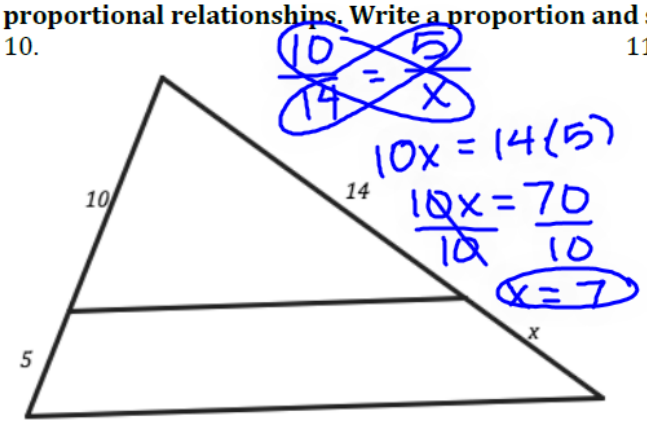
In each problem determine the desired values using the similar triangles parallel lines and proportional relationships. Write a proportion and solve.

10.



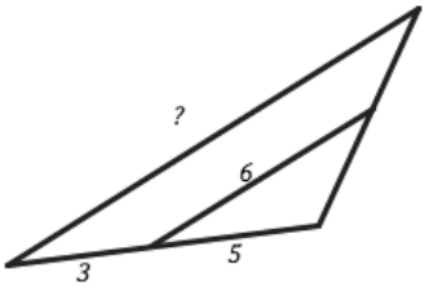
$\frac{10}{14} = \frac{5}{x}$

$10x = 14(5)$

$\frac{10x}{10} = \frac{70}{10}$

$x = 7$

11.



Analyze each table below closely and determine the missing values based on the given information and values in the table.

12. An *Arithmetic* Sequence

Term	1	2	3	4
Value	7			22

13. A *Geometric* Sequence

Term	1	2	3	4

8.50 x 11.00 in

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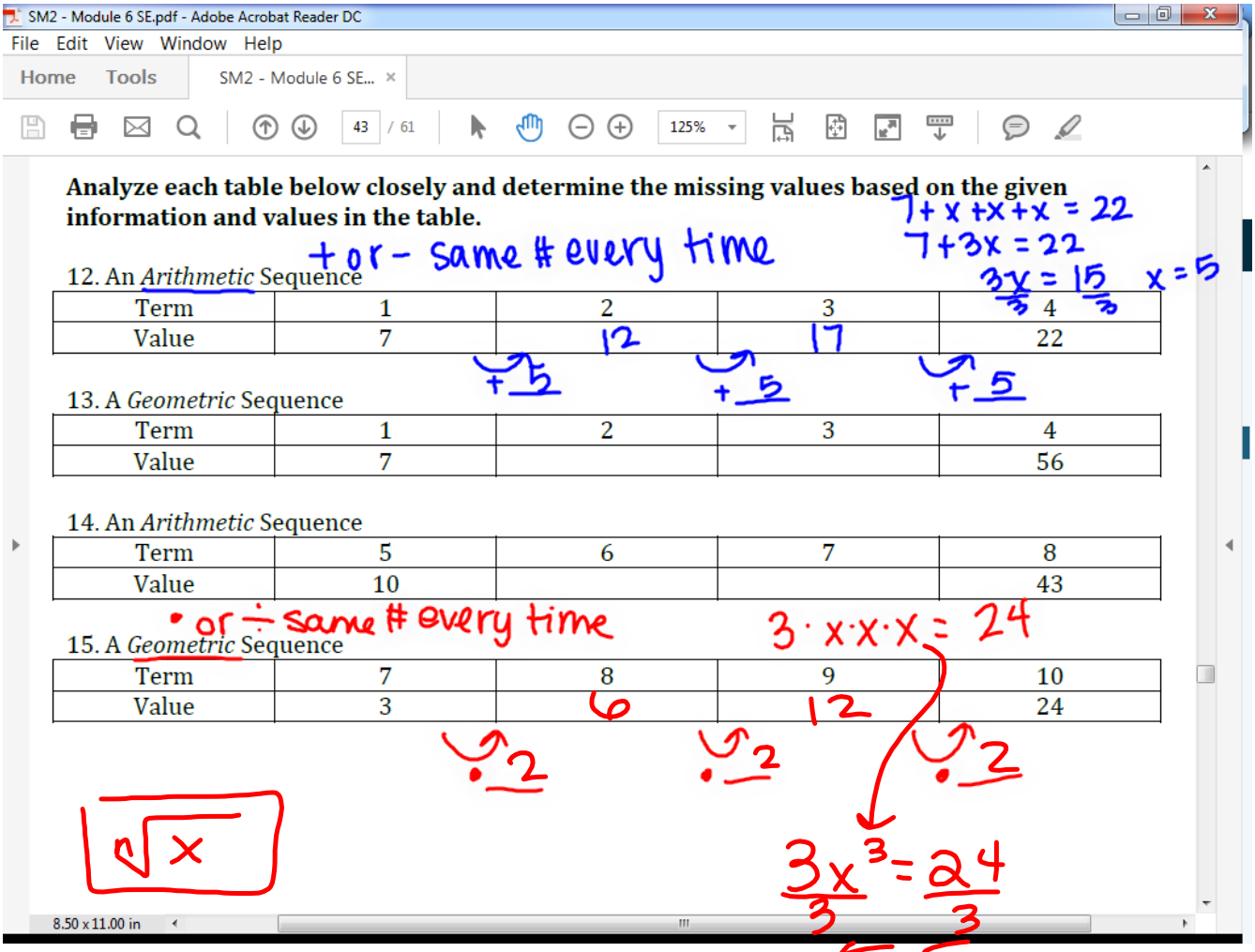
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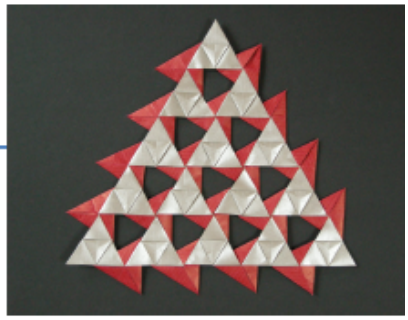
Analyze each table below closely and determine the missing values based on the given information and values in the table.
7+x+x+x = 22
7+3x = 22
3x = 15
x = 5
+ or - same # every time
12. An Arithmetic Sequence
Term 1 2 3 4
Value 7 12 17 22
+5 +5 +5
13. A Geometric Sequence
Term 1 2 3 4
Value 7 56
14. An Arithmetic Sequence
Term 5 6 7 8
Value 10 43
• or ÷ same # every time
3 · x · x · x = 24
15. A Geometric Sequence
Term 7 8 9 10
Value 3 6 12 24
•2 •2 •2
8.50 x 11.00 in
∛x
3x³/3 = 24/3
∛x³ = ∛8
x = 2

6.8 Are Relationships Predictable?

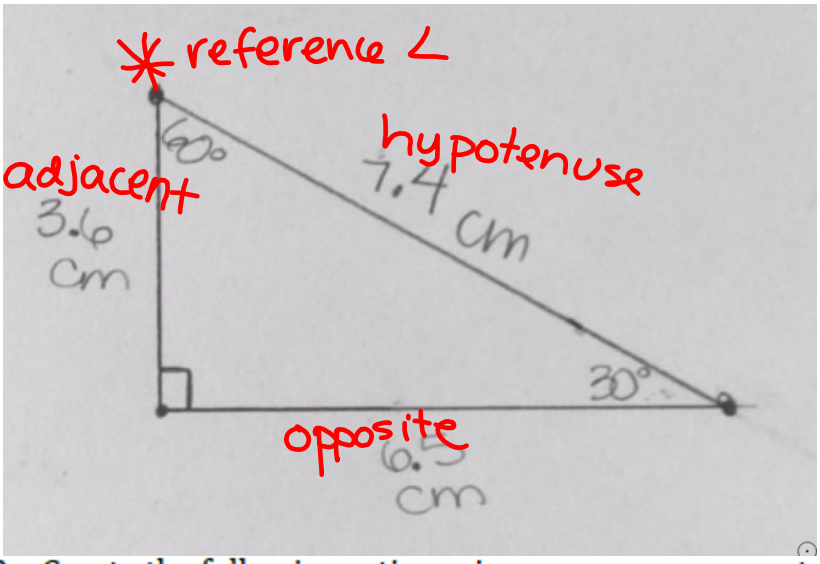
A Develop Understanding Task



1. In your notebook draw a right triangle with one angle of 60°.
Measure each side of your triangle as accurately as you can with a centimeter ruler.
Using the 60° angle as the ***angle of reference*** list the measure for each of the following:

Length of the ***adjacent*** side: 3.6cm Length of the ***opposite*** side: 6.5cm

Length of the ***hypotenuse***: 7.4cm



2. Create the following ratios using your measurements:

$$\frac{\text{opposite side}}{\text{hypotenuse}} = \frac{6.5}{7.4} = 0.878 \qquad \frac{\text{adjacent side}}{\text{hypotenuse}} = \frac{3.6}{7.4} = 0.486$$

$$\frac{\text{opposite side}}{\text{adjacent side}} = \frac{6.5}{3.6} = 1.81$$

3. Compare your ratios with others that had a triangle of a different size. What do you notice? Explain any connections you find to others' work?

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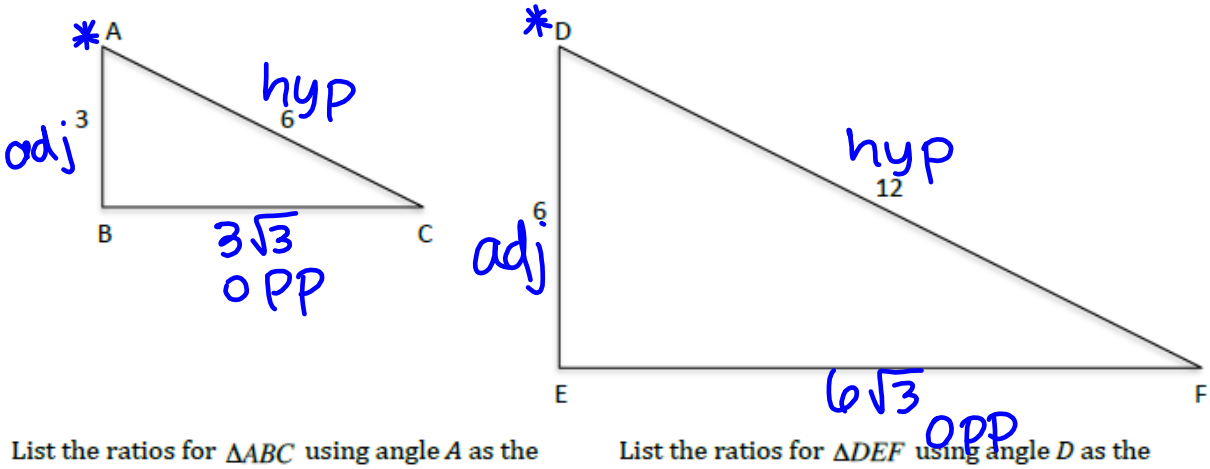
4. In the right triangles below find the missing side length and then create the desired ratios based on the angle of reference (angle A and angle D).



List the ratios for ΔABC using angle A as the angle of reference.

$$\frac{\text{opposite side}}{\text{hypotenuse}} = \frac{3\sqrt{3}}{6} = \frac{\sqrt{3}}{2}$$

$$\frac{\text{adjacent side}}{\text{hypotenuse}} = \frac{3}{6} = \frac{1}{2}$$

$$\frac{\text{opposite side}}{\text{adjacent side}} = \frac{3\sqrt{3}}{3} = \sqrt{3}$$

List the ratios for ΔDEF using angle D as the angle of reference.

$$\frac{\text{opposite side}}{\text{hypotenuse}} = \frac{6\sqrt{3}}{12} = \frac{\sqrt{3}}{2}$$

$$\frac{\text{adjacent side}}{\text{hypotenuse}} = \frac{6}{12} = \frac{1}{2}$$

$$\frac{\text{opposite side}}{\text{adjacent side}} = \frac{6\sqrt{3}}{6} = \sqrt{3}$$

5. What do you notice about the ratios from the two given triangles? How do these ratios compare to the ratios from the triangle you made on the previous page?

6. What can you infer about the angle measures of ΔABC and ΔDEF ? Explain?

7. Why do the relationships you have noticed occur?

8. What can you conclude about the ratio of sides in a right triangle that has a 60^0? Would you think that right triangles with other angle measures would have a relationship among there ratios?

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Homework

Finish 6.8 "Ready, Set, Go"

Mar 28-9:36 AM