Welcome Back MYP Math 9!

	Assignment Effort Grade (Circle One)	Comments (What was interesting or challenging?)
Monday Date: 11/13 Topic: 20E Problem Solving	0 1 2	
Tuesday Date: _____ Topic: _____	0 1 2	
Wednesday Date: _____ Topic: _____	0 1 2	
Thursday Date: _____ Topic: _____	0 1 2	
Friday Date: _____ Topic: _____	0 1 2	

Warm-up:

Use cross multiplication to solve for ***x***.

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

$4(3x+4) = 5(x-1)$

$12x + 16 = 5x - 5$

$-16 \quad -16$

$12x = 5x - 21$

$-5x \quad -5x$

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

$x = -3$

Tomorrow: Unit 3 Quiz 1

Do: Review Problems

Done?: 1) Review previous homework
2) Ask for extension Problems
(Solutions Posted)

Tomorrow: Unit 3 Quiz 1

6B Rational Equations

(proportions - equal ratios)

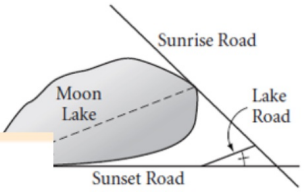
20D Similar Figures

20E Problem Solving

7 8	• Select appropriate mathematics when solving **challenging problems in both familiar and unfamiliar situations.** • Apply the selected mathematics successfully when solving these problems. • Generally solve these problems correctly.		• All problems are solved ***without error*** and detailed work shown. -Rational Equation solved algebraica -Real-life application -Justify the similarity. -Problem solving with similarity.

1)

Sunrise Road is 42 miles long between the edge of Moon Lake and Lake Road and 15 miles long between Lake Road and Sunset Road. Lake Road is 29 miles long. Find the length of Moon Lake.

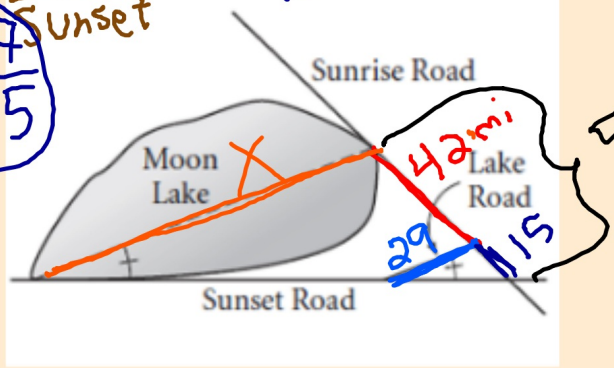


.

X 57 Sunset

29 15

$\frac{X}{29} = \frac{57}{15}$

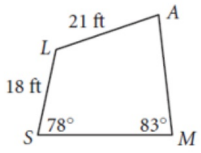


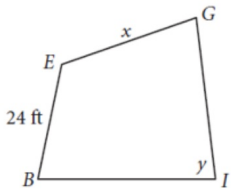
57mi

Similar Geometric Figures:

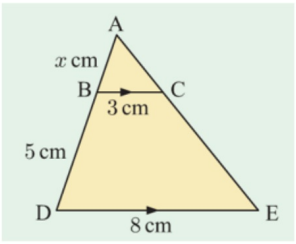
2) $SMAL \sim BIGE$

Find x and y.

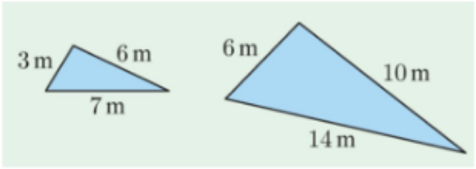




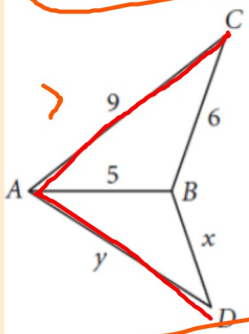
3) Solve for ***x***



4) Explain why the triangles are **not** similar.

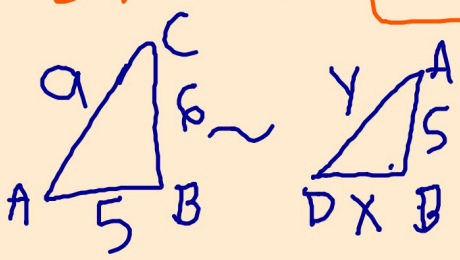


5) $\Delta ABC \sim \Delta DBA$. Find x and y.



$\frac{BC}{BA} = \frac{AB}{DB} = \frac{5}{x} = \frac{6}{5}$

$\frac{AC}{DA} = \frac{9}{y} = \frac{6}{5}$ $\frac{BC}{BA}$



6)

$$\frac{9}{6} = \frac{x}{7}$$

7)

$$\frac{9}{5} = \frac{m+10}{8}$$

8)

$$\frac{2}{7} = \frac{5}{m+8}$$

9)

$$\frac{n-9}{n-8} = \frac{4}{3}$$

Challenge! Find a common denominator *OR* Clear the fractions by multiplying by a least common multiple!

10)

$$\frac{1}{v} + \frac{2v-4}{v} = \frac{1}{2v}$$

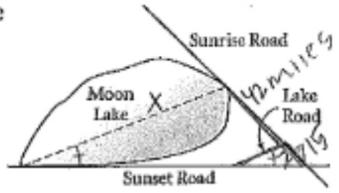
Challenge! Find a common denominator *OR* Clear the fractions by multiplying by a least common multiple!

11)

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

Solutions

Sunrise Road is 42 miles long between the edge of Moon Lake and Lake Road and 15 miles long between Lake Road and Sunset Road. Lake Road is 29 miles long. Find the length of Moon Lake. $42 + 15 = 57$



$\frac{57}{15} = \frac{x}{29}$

$\frac{15x}{15} = \frac{1653}{15}$

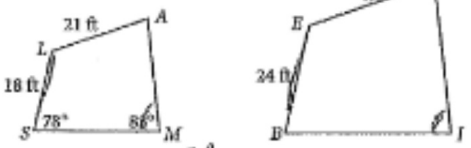
$x = 1110.2$ miles

Solutions

Similar Geometric Figures:

5) SMAL ~ BIGE

Find x and y.



$y = 93°$

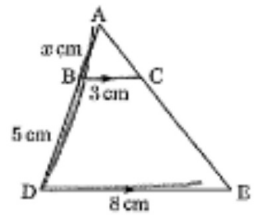
$\frac{18}{24} = \frac{21}{x}$

$\frac{18x}{18} = \frac{504}{18}$

$1x = 28$ ft

7) Explain why the triangles are not similar.

6) Solve for x



$\frac{x}{x+5} = \frac{3}{8}$

$8x = 3(x+5)$

$8x = 3x + 15$

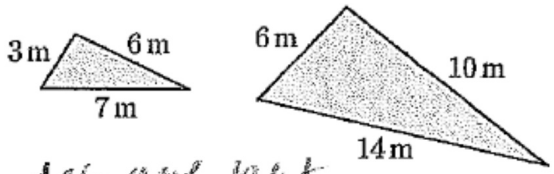
$-3x \quad -3x$

$5x = 15$ $\quad x = 3$

8)

Solutions

4) Explain why the triangles are **not** similar.

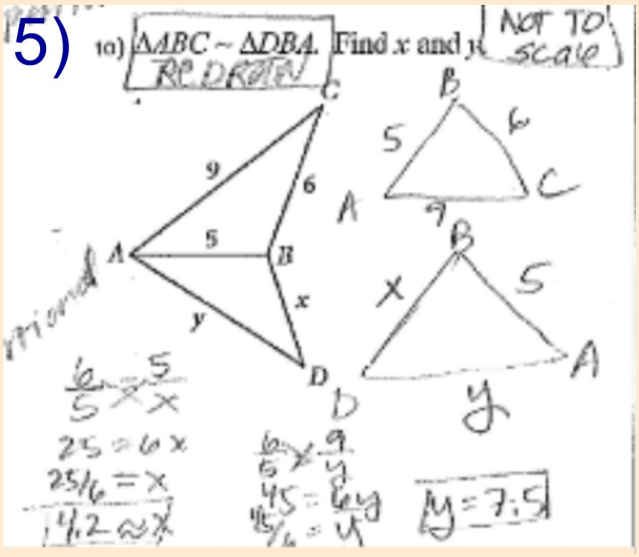


sides are not proportional so triangles are not similar.

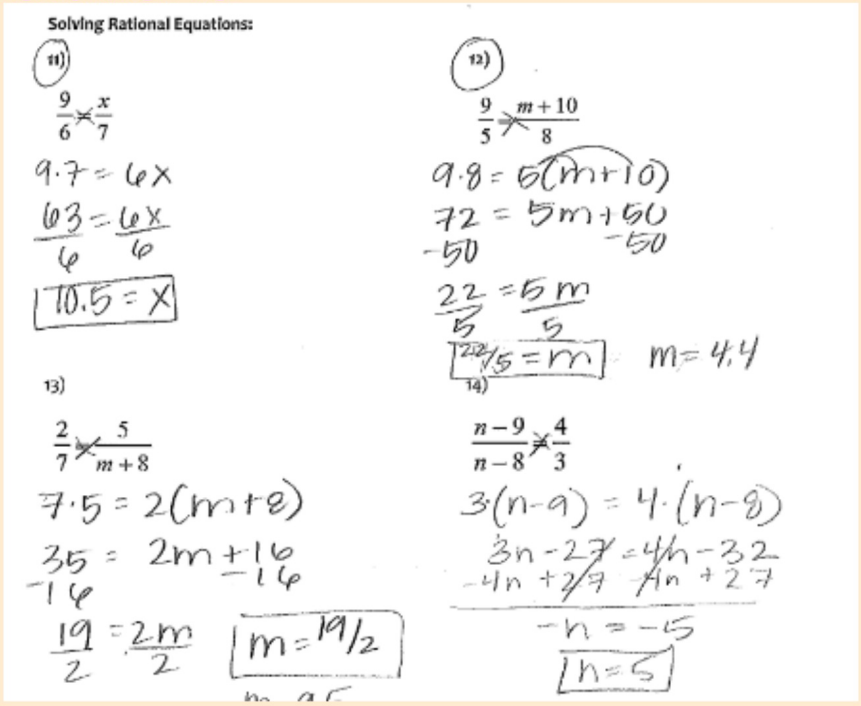
$\frac{3}{6} = \frac{7}{14} \neq \frac{6}{10}$

Solutions

5)


10) ΔABC ~ ΔDBA. Find x and y.
NOT TO scale
RE-DRAWN
C
9
6
A
5
B
x
y
D
B
5
6
A
9
C
B
x
5
A
D
y
6/5 = 5/x
25 = 6x
25/6 = x
4.2 ≈ x
6/5 = 9/y
45 = 6y
15/2 = y
y = 7.5

Solutions



Solving Rational Equations:

11) $\frac{9}{6} = \frac{x}{7}$

$9 \cdot 7 = 6x$

$\frac{63}{6} = \frac{6x}{6}$

$10.5 = x$

12) $\frac{9}{5} = \frac{m+10}{8}$

$9 \cdot 8 = 5(m+10)$

$72 = 5m + 50$

$-50 \quad -50$

$\frac{22}{5} = \frac{5m}{5}$

$22/5 = m$ $\quad m = 4.4$

13) $\frac{2}{7} = \frac{5}{m+8}$

$7 \cdot 5 = 2(m+8)$

$35 = 2m + 16$

$-16 \quad -16$

$\frac{19}{2} = \frac{2m}{2}$ $\quad m = 19/2$

14) $\frac{n-9}{n-8} = \frac{4}{3}$

$3(n-9) = 4 \cdot (n-8)$

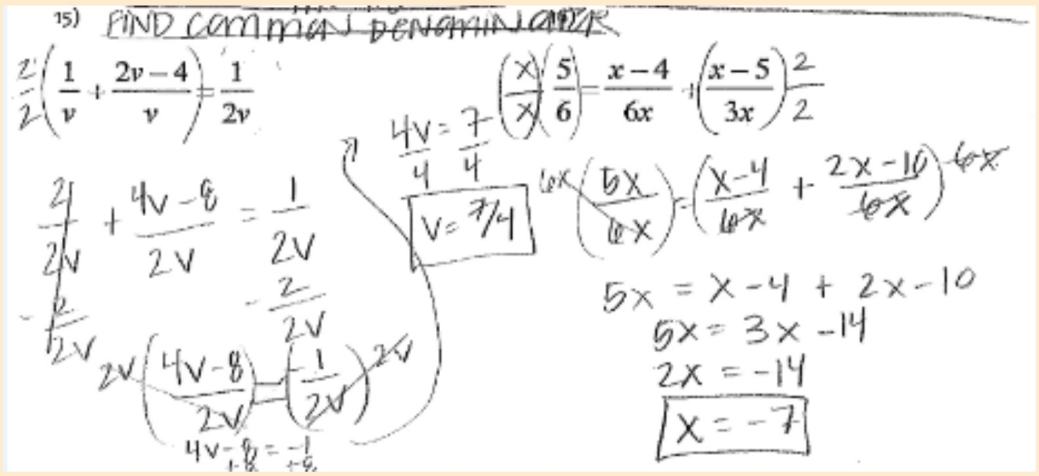
$3n - 27 = 4n - 32$

$-4n + 27 \quad -4n + 27$

$-n = -5$

$n = 5$

Solutions


15) FIND COMMON DENOMINATOR
$\frac{2}{2}\left(\frac{1}{v}+\frac{2v-4}{v}\right)=\frac{1}{2v}$
$\frac{2}{2v}+\frac{4v-8}{2v}=\frac{1}{2v}$
$-\frac{2}{2v}$
$-\frac{2}{2v}$
$2v\left(\frac{4v-8}{2v}\right)=\left(\frac{-1}{2v}\right)2v$
$4v-8=-1$
$+8\ +8$
$\frac{4v}{4}=\frac{7}{4}$
$v=7/4$
$\left(\frac{x}{x}\right)\left(\frac{5}{6}\right)=\frac{x-4}{6x}+\left(\frac{x-5}{3x}\right)\frac{2}{2}$
$60x\left(\frac{5x}{60x}\right)=\left(\frac{x-4}{60x}+\frac{2x-10}{60x}\right)60x$
$5x=x-4+2x-10$
$5x=3x-14$
$2x=-14$
$x=-7$

Exercises...

Study! :)

Review Handout

Tomorrow...Quiz 3.1