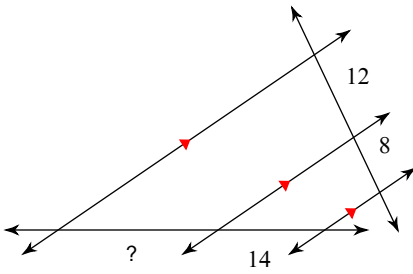


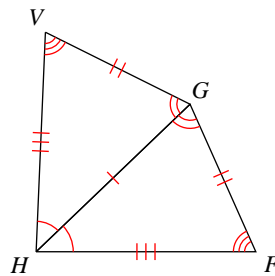
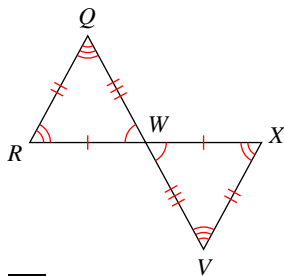
Find the missing length indicated.

80)



Answers to SKILLS

- | | | |
|---|---|-----------------------------------|
| 1) Subtraction Property of Equality | 2) Distributive Property | 3) Reflexive Property of Equality |
| 4) Substitution Property | 5) Substitution Property of Equality | 6) Combining Like Terms |
| 7) Multiplication Property of Equality | 8) Transitive Property of Coolness | |
| 9) 157° | 10) 37° | 11) 82° |
| 13) 10 | 14) 7 | 12) 122° |
| 17) 5 | 18) 5 | 15) 6 |
| 21) 22 | 22) 2 | 16) 3 |
| 25) 8 | 26) 110° | 19) 3 |
| 29) $\sqrt{65}$ | 30) 69° | 20) 105° |
| | | 23) 5 |
| | | 24) 8 |
| | | 27) $y = x + 5$ |
| | | 28) $4\sqrt{2}$ |
| | | 31) 107° |
| | | 32) $\angle UST \cong \angle UTS$ |
| | | $\angle STQ \cong \angle TSR$ |
| 33) $\frac{\angle GHF \cong \angle CHD}{\overline{CV} \cong \overline{GW}}$ | 34) vertical | 35) linear pair |
| $\overline{FE} \cong \overline{ED}$ | | 36) linear pair |
| 37) complementary | 38) 28° | 39) 36° |
| 41) 21 | 42) right scalene | 40) 16 |
| 45) 73° | 46) $\triangle EFG \cong \triangle STU$ | 43) obtuse isosceles |
| 48) | 47) $\triangle TUS \cong \triangle PQR$ | 44) 43° |
| | 49) | 50) $\angle L$ |



- | | | | |
|--|--|-------------------|----------------|
| 51) \overline{ZX} | 52) AAS | 53) Not congruent | 54) SSS |
| 55) ASA | 56) Not congruent | 57) SSS | 58) AAS |
| 59) AAS | 60) SAS | 61) HL | 62) 30° |
| 63) 90° | 64) 128.6° | 65) 162.9° | 66) 8 |
| 67) 5 | 68) 10 | 69) 10 | |
| 70) similar; SSS similarity; $\triangle CDE$ | 71) similar; SAS similarity; $\triangle CRS$ | 72) not similar | |
| 73) similar; SAS similarity; $\triangle SGH$ | 74) 6 | 75) 16 | |
| 76) 18 | 77) 39 | 78) 8 | 79) 9 |
| 80) 21 | | | |

Geometry Semester 1 Exam Review Applications

UNIT 1: Tools for Geometry

1. Mr. Kelly is really good at flow charts. Help him answer the following:

Mark the picture with the following.

- $\overline{AB} \cong \overline{BC}$
- \overline{BF} is the angle bisector of $\angle ABC$
- $\angle BFD$ is a right angle
- F is the midpoint of \overline{DE}

Use the info to find the following.

- e. Use letters to name $\angle 1$.

$\angle ABF$

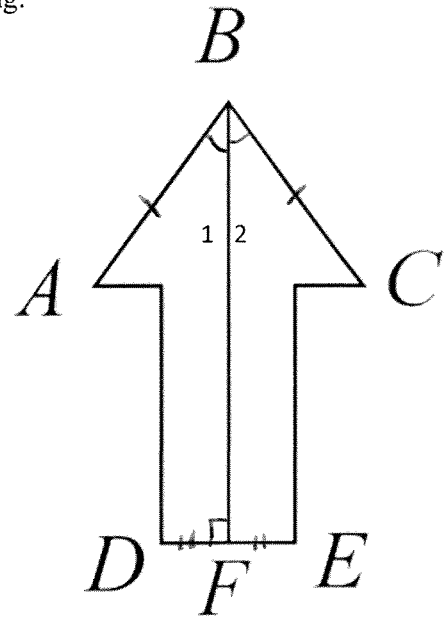
- f. Given $AB = 5x + 3$ and $BC = 3x + 13$, find x and AB

$$5x + 3 = 3x + 13$$

$$2x = 10$$

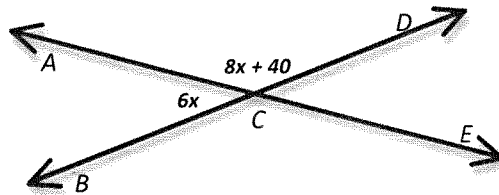
$$x = 5$$

$$\begin{array}{l} \underline{AB} \quad 5(5) + 3 \\ \quad \quad 25 + 3 \\ \quad \quad \boxed{28} \end{array}$$



UNIT 2: Reasoning and Proof

2. Use the diagram to complete the proof that $m\angle ACD = 130$ by filling in the missing steps.



Statements	Reasons
A. $m\angle ACB = 6x$; $m\angle ACD = 8x + 40$	A. Given
B. $m\angle ACB + m\angle ACD = 180$	B. Linear Pairs are Supplementary
C. $6x + 8x + 40 = 180$	C. <u>SUBSTITUTION</u>
D. $14x + 40 = 180$	D. <u>COMBINING LIKE TERMS</u>
E. $14x = 140$	E. Subtraction Property of Equality
F. $x = 10$	F. <u>Division Property of Equality</u>
G. $m\angle BCE = 8(10) + 40 = 120$	G. <u>SUBSTITUTION</u>

UNIT 3: Parallel Lines

3. Mr. Kelly is trying to make some cash for his favorite hobby, collecting Barbie dolls. After one week he still owes his wife one dollar but after three weeks he has now five dollars.

$(1, -1)$
 $(3, 5)$

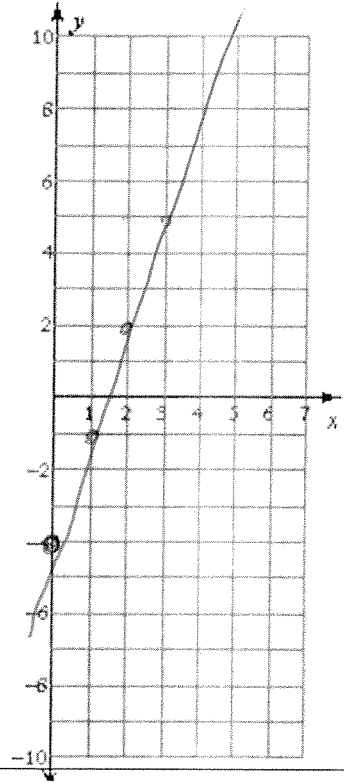
- a) What's Mr. Kelly's slope (rate of change) for this situation?
- b) What's Mr. Kelly's y-intercept (initial value) for this situation?
- c) Write an equation of the line for the given situation. Graph the line.
- d) How much money would Mr. Kelly have after 2 months?

$\frac{5 - (-1)}{3 - 1} = \frac{6}{2} = 3$
 $y = mx + b$
 $5 = 3(3) + b$
 $5 = 9 + b$
 $b = -4$

$y = 3x - 4$

↳ 8 weeks

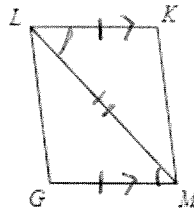
$y = 3(8) - 4$
 $= 24 - 4$
 $= 20$



UNIT 4: Triangle Congruence

4. Fill in the blanks on the proof below.

Given: $\overline{LK} \cong \overline{GM}$
 $\overline{LK} \parallel \overline{GM}$



Prove: $\triangle LGM \cong \triangle MGL$

STATEMENTS	REASONS
1. $\overline{LK} \cong \overline{GM}$ $\overline{LK} \parallel \overline{GM}$	1. Given
2. $\angle LMG \cong \angle MLK$	2. If 2 lines are parallel, then Alt INT \angle s are congruent
3. $\overline{LM} \cong \overline{LM}$	3. Reflexive Property
4. $\triangle LGM \cong \triangle MGL$	4. SAS

UNIT 5: Quadrilaterals

5. The coordinates of the vertices of quadrilateral BRUS are B(-8, 1), R(0, 0), U(-1, -5) and S(-9, -4).

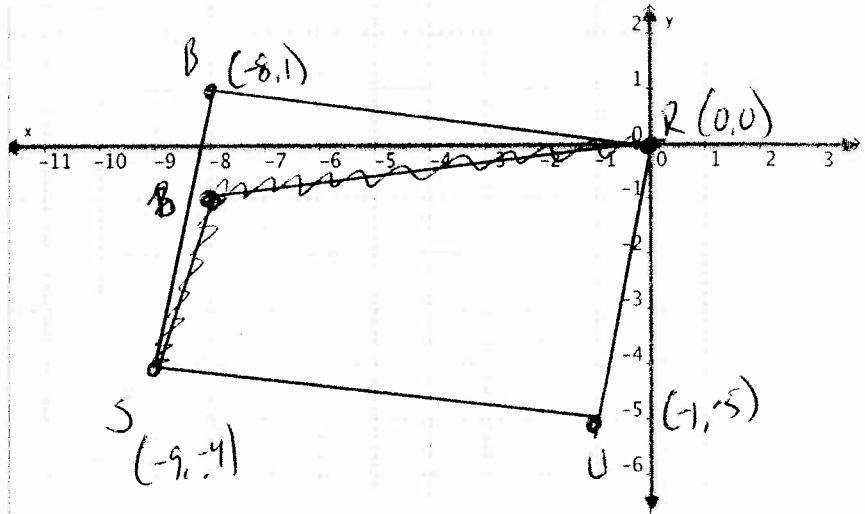
- Graph and label BRUS. (Use a straight edge and label the coordinates of each point!)
- Use the slope formula to determine if BRUS is a parallelogram. $m = \frac{\Delta y}{\Delta x} = \frac{y_2 - y_1}{x_2 - x_1}$

$$\text{Slope } \overline{BR} = \frac{1-0}{-8-0} = -\frac{1}{8}$$

$$\text{Slope } \overline{RU} = \frac{-5-0}{-1-0} = -\frac{5}{-1} = 5$$

$$\text{Slope } \overline{US} = \frac{-4+5}{-9+1} = \frac{1}{-8}$$

$$\text{Slope } \overline{SB} = \frac{-4+1}{-9+8} = \frac{-3}{-1} = 3$$



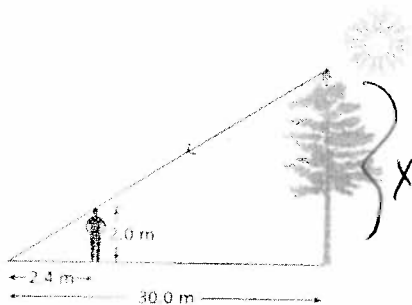
Is BRUS a parallelogram? Yes

How do you know? Opposite sides have same slope which means opposite sides are parallel.

UNIT 6: Similar Figures

6. Find the height of the tree in the following:

a.

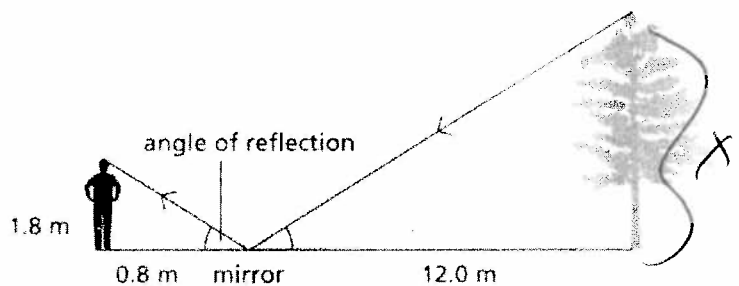


$$\frac{2.4}{30} = \frac{2}{X}$$

$$2.4X = 60$$

$$X = 25 \text{ m}$$

b.



$$\frac{0.8}{12} = \frac{1.8}{X}$$

$$0.8X = 21.6$$

$$X = 27 \text{ m}$$