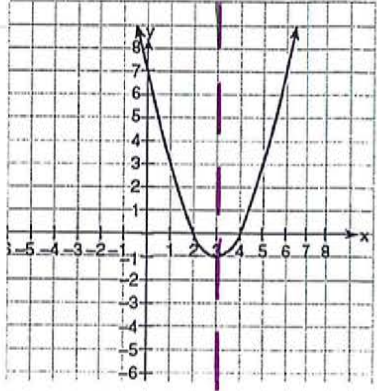
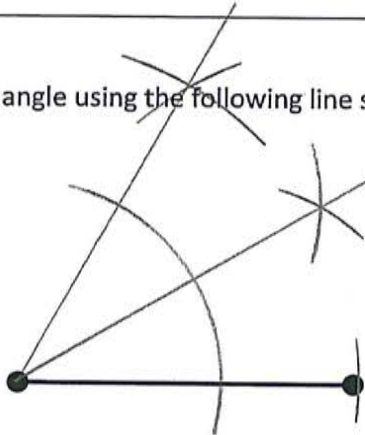


Due: \_\_\_\_\_

<p>1. Factor: a. <math>9x^2 - y^2</math> <span style="float: right;">DOTS</span></p> <p style="text-align: center;"><math>(3x - y)(3x + y)</math></p> <p>b. <math>x^2 + 18x + 80</math> <span style="float: right;">SAME SIGNS</span></p> <p style="text-align: center;"><math>(x + 8)(x + 10)</math></p> <p style="position: absolute; left: -50px; top: 50px;">TRI</p>	<p>2. Which is an equation of the line of symmetry for the parabola in the accompanying diagram?</p> <p>(1) <math>x = 2</math>                  (2) <math>x = 3</math>                  (3) <math>y = 4</math>                  (4) <math>y = 3</math></p> 
<p>3. Solve the following for x:</p> <p><math>x^2 + 3x - 4 = 0</math> <span style="float: right;">TRI</span></p> <p style="margin-left: 40px;">Diff Signs</p> <p style="text-align: center;"><math>(x + 4)(x - 1) = 0</math></p> <p style="text-align: center;">-4   1</p>	<p>4. Write the following radical in simplest form.</p> <p><math>2\sqrt{48}</math></p> <p><math>2\sqrt{16}\sqrt{3}</math></p> <p><math>2 \cdot 4\sqrt{3}</math></p> <p><math>8\sqrt{3}</math></p>

5. Construct a  $30^\circ$  angle using the following line segment (Hint: Draw an equilateral triangle).



Then  $\angle$  bisector

Name: \_\_\_\_\_

Cumulative Review #2

Due: \_\_\_\_\_

Show ALL work to receive full credit, answers without work shown will receive no credit. Late assignments will not be accepted.

1. The diagram below shows the construction of the bisector of  $\angle ABC$ .

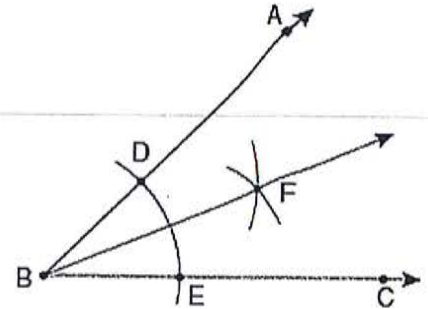
Which statement is not true?

1)  $m\angle EBF = \frac{1}{2} m\angle ABC$  ✓

3)  $m\angle EBF = m\angle ABC$  ✗

2)  $m\angle DBF = \frac{1}{2} m\angle ABC$  ✓

4)  $m\angle DBF = m\angle EBF$  ✓



2. One step in a construction uses the endpoints of  $\overline{AB}$  to create arcs with the same radii. The arcs intersect above and below the segment. What is the relationship of  $\overline{AB}$  and the line connecting the points of intersection of these arcs?

1) collinear

2) congruent

3) parallel

4) perpendicular

3. Solve for  $x$ :  $15x - 3(3x + 4) = 6$

$15x - 9x - 12 = 6$

$6x - 12 = 6$

$6x = 18$

$x = 3$

1) 1

2)  $-\frac{1}{2}$

3) 3

4)  $\frac{1}{3}$

4. Two parallel roads, Elm Street and Oak Street, are crossed by a third, Walnut Street, as shown in the accompanying diagram. Find the number of degrees in the acute angle formed by the intersection of Walnut Street and Elm Street. Justify your answer.

Alt Int  $\angle$ s

$5x - 15 = 2x + 33$

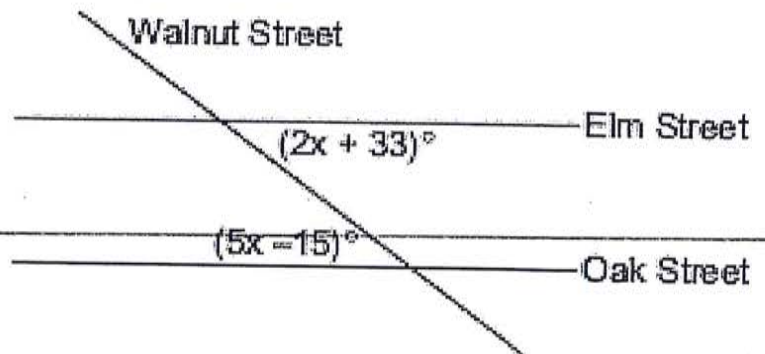
$3x = 48$

$x = 16$

$2(16) + 33$

$32 + 33$

65

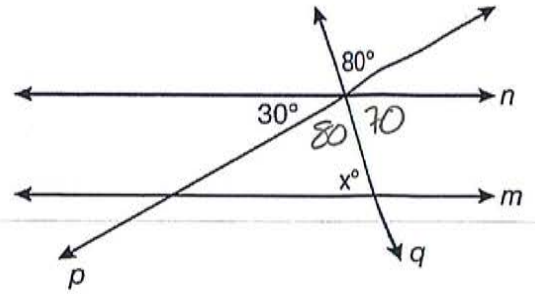


5. In the diagram below, lines  $n$  and  $m$  are parallel and are cut by transversals  $p$  and  $q$ .

What is the value of  $x$ ?

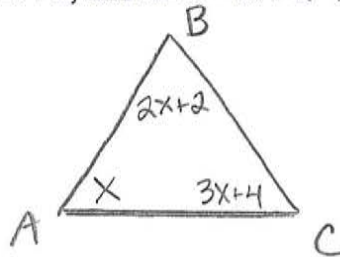
- 1) 110  
2) 80  
3) 70  
4) 50

Vertical  $\angle$ s  
 $\angle$  on a Line  
Alt Int  $\angle$ s



6. In  $\triangle ABC$ ,  $m\angle A = x$ ,  $m\angle B = 2x + 2$ , and  $m\angle C = 3x + 4$ . What is the value of  $x$ ?

- 1) 29  
2) 31  
3) 59  
4) 61



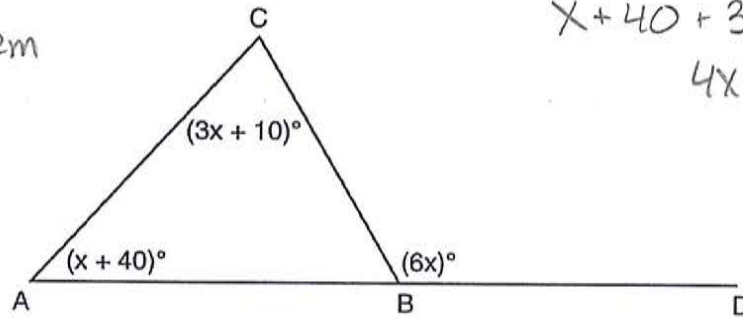
$$6x + 6 = 180$$

$$6x = 174$$

$$x = 29$$

7. In the diagram of  $\triangle ABC$  below,  $\overline{AB}$  is extended to point  $D$ .

Ext  $\angle$  Theorem



$$x + 40 + 3x + 10 = 6x$$

$$4x + 50 = 6x$$

$$50 = 2x$$

$$x = 25$$

If  $m\angle CAB = x + 40$ ,  $m\angle ACB = 3x + 10$ ,  $m\angle CBD = 6x$ , what is  $m\angle CAB$ ?

- 1) 13                      2) 25                      3) 53                      4) 65

8. Which expression is equivalent to  $7\sqrt{90}$ ?

- 1)  $16\sqrt{10}$                       2)  $21\sqrt{10}$                       3)  $70\sqrt{9}$                       4)  $\sqrt{630}$

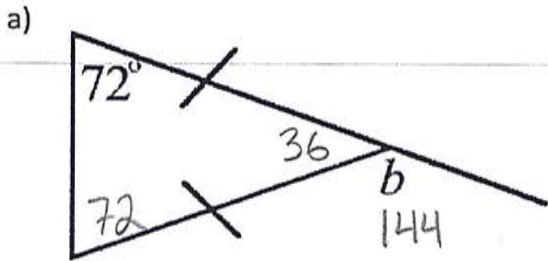
$$7\sqrt{9}\sqrt{10}$$

$$7 \cdot 3\sqrt{10}$$

$$21\sqrt{10}$$

Due: \_\_\_\_\_

1. Determine the measures of the unknown (labeled) angles. Give reason(s) for each of your calculations.



$m\angle b = 144$

\_\_\_\_\_  
 Iso  $\Delta$   
 \_\_\_\_\_  
 $\angle$ s in a  $\Delta$   
 \_\_\_\_\_  
 Supp  $\angle$ s

2. State the property that is used in each of the following statements.

a)  $m\angle DYC = m\angle DYC$

\_\_\_\_\_  
 Reflexive

b)  $m\angle ABC = 90^\circ$   
 $90^\circ = m\angle XYZ$   
 $\therefore m\angle ABC = m\angle XYZ$

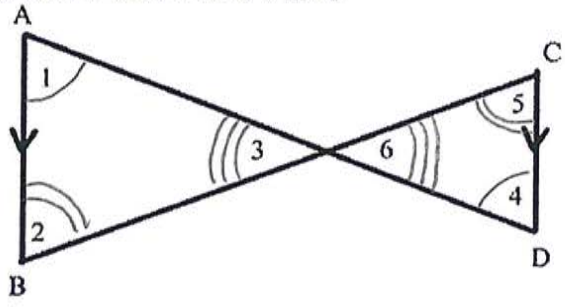
\_\_\_\_\_  
 Substitution / Transitive

3. Write a formal proof

Given:  $\overline{AB} \parallel \overline{CD}$

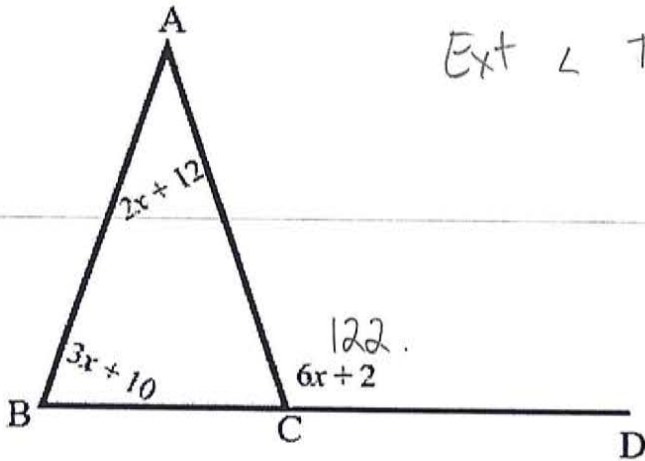
OMIT

Prove:  $m\angle 2 + m\angle 3 = m\angle 5 + m\angle 6$



Statement	Reason
1) $\overline{AB} \parallel \overline{CD}$	1) Given
2) $\angle 1 \cong \angle 4, \angle 2 \cong \angle 5$	2) If 2 $\parallel$ lines cut by transversal, alt int $\angle$ s $\cong$
3) $\angle 3 \cong \angle 6$	3) Vert $\angle$ s are $\cong$
4) $\angle 2 + \angle 3 = \angle 5 + \angle 6$	4) Addition

4. In  $\triangle ABC$ ,  $\overline{BC}$  is extended through C to D. Find the  $m\angle ACB$ .



Ext  $\angle$  Theorem

$$3x+10 + 2x+12 = 6x+2$$

$$5x+22 = 6x+2$$

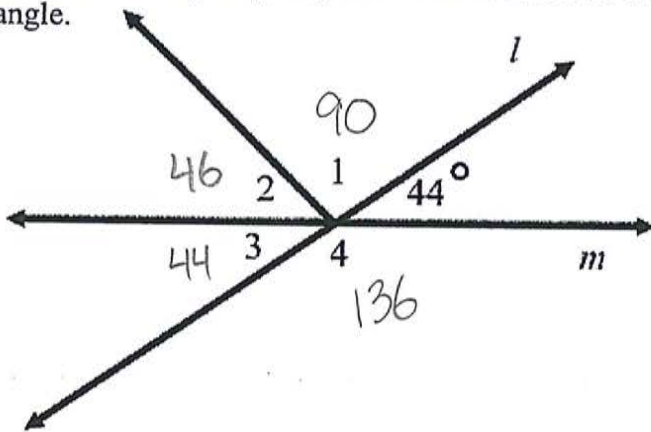
$$20 = x$$

$$180 - 122$$

$$\boxed{m\angle ACB = 58}$$

Linear Pairs

5. In the following diagram, lines  $l$  and  $m$  intersect and  $\angle 3$  is complementary to  $\angle 2$ . Find the measure of each angle.



$$\angle 3 + \angle 2 = 90$$

$$44 + \angle 2 = 90$$

$$\angle 2 = 46$$

$\angle 3$  &  $44$  are Vert  $\angle$ s

$\angle 1, \angle 2, \angle 3$  are  $\angle$ s on a Line

$\angle 3$  &  $\angle 4$  are Linear Pairs

$$\angle 1 = 180 - 46 - 44$$

$$\angle 1 = 90$$

Due: \_\_\_\_\_

Show all work to receive full credit. Late assignments will NOT be accepted.

1. Find the value of  $x$  in each.

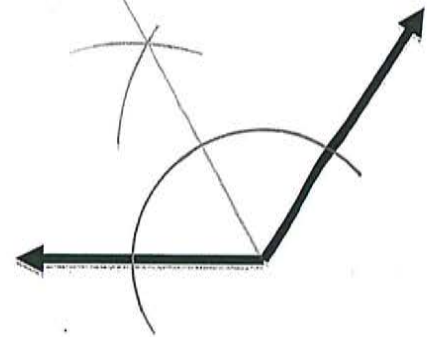
a. *Same Side Interior*

$x + 40 + 3x + 60 = 180$   
 $4x + 100 = 180$   
 $4x = 80$   
 $x = 20$

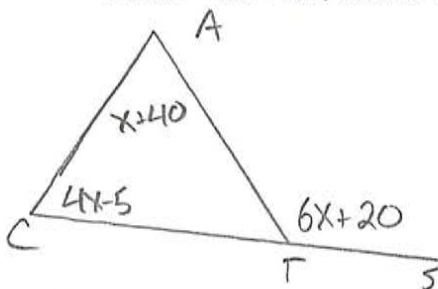
b. *Corresponding*

$x - 13 = 83$   
 $x = 96$

2. Use your compass and straightedge to bisect the angle below.



3. In  $\triangle CAT$ , side  $\overline{CT}$  is extended through  $T$  to  $S$ . If  $\angle CAT = x + 40$ ,  $\angle ACT = 4x - 5$ , and  $\angle ATS = 6x + 20$ , find  $x$ . (HINT - Draw a picture!)

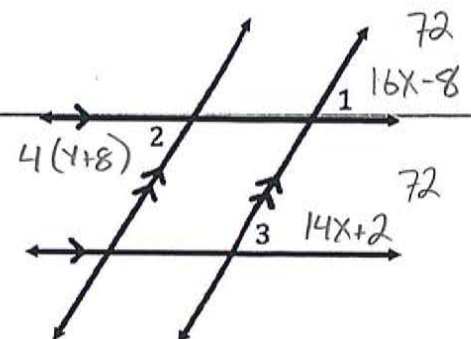


$4x - 5 + x + 40 = 6x + 20$   
 $5x + 35 = 6x + 20$   
 $x = 15$

4. If  $m\angle 1 = 16x - 8$ ,  $m\angle 2 = 4(y + 8)$ , and  $m\angle 3 = 14x + 2$ , find  $x$  and  $y$ .

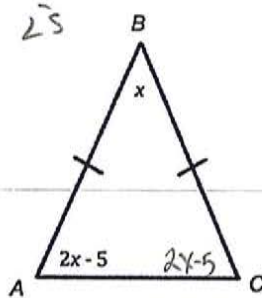
$16x - 8 = 14x + 2$   
 $2x = 10$   
 $x = 5$

$4(y + 8) = 72$   
 $4y + 32 = 72$   
 $4y = 40$   
 $y = 10$



5. Find the value of  $x$  given the isosceles triangle below.

$\cong$  base  $2s$



$$2x-5 + x + 2x-5 = 180$$

$$5x-10 = 180$$

$$5x = 190$$

$$\boxed{x = 38}$$

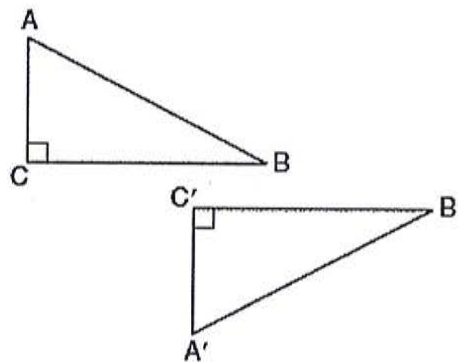
6. A translation maps the point  $(-2, 5)$  to the point  $(-4, -4)$ . What is the image of  $(1, 4)$  under the same translation?

$$x-2, y-9$$

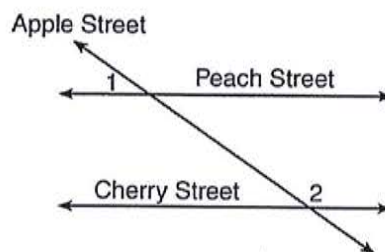
$$(-1, -5)$$

7. Which transformation(s) were used to map  $\triangle ABC$  to  $\triangle A'B'C'$ ?

Reflection & Translation



8. Peach Street and Cherry Street are parallel. Apple Street intersects them, as shown in the diagram below.



$$2x+36 + 7x-9 = 180$$

$$9x + 27 = 180$$

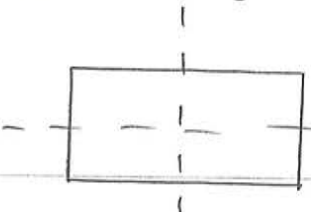
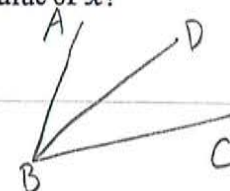
$$9x = 153$$

$$x = 17$$

If  $m\angle 1 = 2x + 36$  and  $m\angle 2 = 7x - 9$ , what is  $m\angle 1$ ?

$$2(17) + 36$$

$$\boxed{70}$$

<p>1) How many lines of symmetry does a rectangle have?</p> <p>a) 1                      c) 4</p> <p><u>b) 2</u>                      d) 0</p> 	<p>2) <math>\angle ABC</math> is bisected by <math>\overline{BD}</math>. If <math>\angle ABC</math> is represented by <math>4x + 8</math> and <math>m\angle DBC = 52^\circ</math>, which of the following represents the value of <math>x</math>?</p> <p>a) 24                      c) 11</p> <p>b) 104                      d) 4.5</p> <p><math>4x + 8 = 2(52)</math>      <math>4x + 8 = 104</math>      <math>4x = 96</math></p> <p><math>x = 24</math></p> 
<p>3) Which is not a degree of rotational symmetry for a square?</p> <p><u>a) 60</u>                      c) 180 ✓</p> <p>b) 90 ✓                      d) 270 ✓</p>	<p>4) What is the solution set for the following equation?</p> <p><math>x^2 + 7x - 8 = 0</math></p> <p><u>a) <math>\{-8, 1\}</math></u>                      c) <math>\{-4, -3\}</math></p> <p>b) <math>\{-1, 8\}</math>                      d) <math>\{-4, -2\}</math></p> <p><math>(x + 8)(x - 1) = 0</math></p> <p><math>-8 \mid 1</math></p>

5. Using a compass and a straightedge, perform the following transformation.

$r_l(\overline{CD})$

