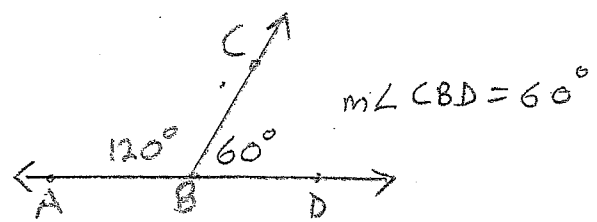


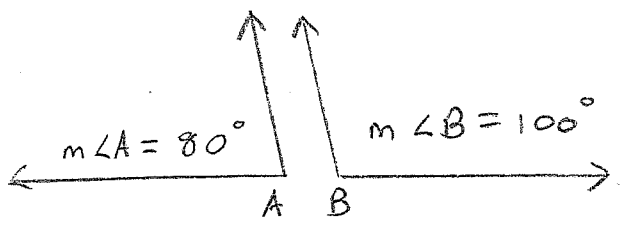
Final Exam Review #1

1.

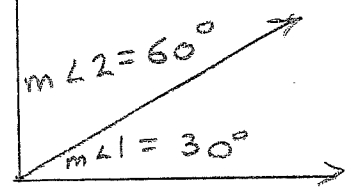
(a)



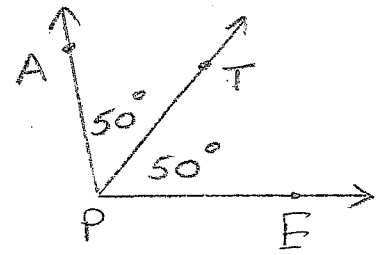
(c)



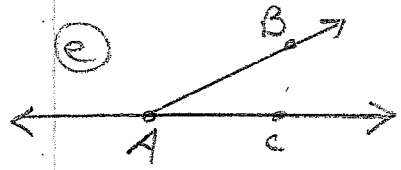
(b)



(d)



(e)



2.

(a) M or H

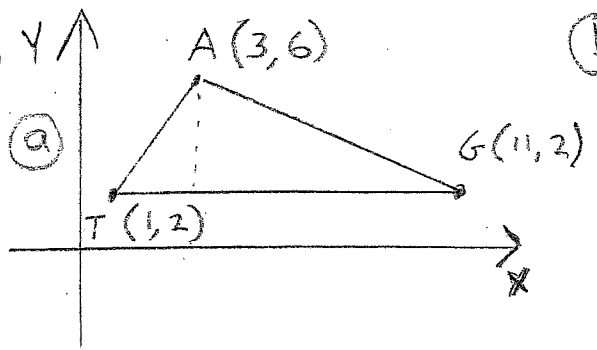
(b) L

(c) DC

(d) H

(e) H

3.



(b)

$$TG = 10$$

$$TA = \sqrt{(3-1)^2 + (6-2)^2}$$

$$= \sqrt{4 + 16}$$

$$= \sqrt{20} = \sqrt{4 \cdot 5} = 2\sqrt{5}$$

$$AG = \sqrt{(3-11)^2 + (6-2)^2}$$

$$= \sqrt{64 + 16}$$

$$= \sqrt{80} = \sqrt{16 \cdot 5} = 4\sqrt{5}$$

(c) Perimeter = $10 + 2\sqrt{5} + 4\sqrt{5}$
 $= 10 + 6\sqrt{5}$

Area = $\frac{\text{base} \cdot \text{height}}{2} = \frac{10 \cdot 4}{2} = 20 \text{ units}^2$

(d) scalene

(e) right: slope of TA = $\frac{4}{2} = 2$
 slope of AG = $\frac{-4}{8} = -\frac{1}{2}$

4.

(a) M: $(\frac{-3+5}{2}, \frac{7+1}{2})$
 $(1, 4)$

(b)

$$m = \frac{7-1}{-3-5}$$

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

(c)

$$CG = \sqrt{(-3-5)^2 + (7-1)^2}$$

$$= \sqrt{64 + 36}$$

$$= \sqrt{100} = 10$$

$$3x - 8 + 2x + 6 = 98$$

$$5x - 2 = 98$$

$$5x = 100$$

$$x = 20$$

$$m\angle QRS = 2(20) + 6$$

$$= 46^\circ$$

$$6) 8x + 35 = 11x + 23$$

$$12 = 3x$$

$$x = 4$$

$$m\angle ABC = 8(4) + 35$$

$$= 67^\circ$$

$$7) 6x + 59 + 3x - 14 = 180$$

$$9x + 45 = 180$$

$$9x = 135$$

$$x = 15$$

$$m\angle WXY = 6(15) + 59$$

$$= 149^\circ$$

$$m\angle YXZ = 3(15) - 14 = 31^\circ$$

8) a) If the angle measures 110° , then the angle is obtuse

b) If the angle is obtuse, then the angle measures 110°

c) If the angle does not measure 110° , then the angle is not obtuse.

d) If the angle is not obtuse, then the angle does not measure 110°

e) a \rightarrow True b \rightarrow False c \rightarrow False d \rightarrow True

9) c) butterflies

10) If the animal is a mammal, then it is not a frog.

11) An angle is acute if and only if its measure is less than 90°

Page 2

12) a) Alternate Interior

d) Same-side Interior

b) Corresponding

e) Linear Pair

c) Vertical

13) a) $m\angle 2 = 70^\circ$ b) $m\angle 3 = 70^\circ$ c) $m\angle 4 = 110^\circ$

14) $m\angle 1 = 140^\circ$ $m\angle 2 = 140^\circ$ $m\angle 3 = 140^\circ$ $m\angle 4 = 40^\circ$

$m\angle 5 = 50^\circ$ $m\angle 6 = 58^\circ$ $m\angle 7 = 105^\circ$ $m\angle 8 = 75^\circ$

$m\angle 9 = 23^\circ$ $m\angle 10 = 99^\circ$

(15) $m\angle 1 = 48^\circ$ $m\angle 2 = 48^\circ$ $m\angle 3 = 50^\circ$
 $m\angle 4 = 82^\circ$ $m\angle 5 = 82^\circ$ $m\angle 6 = 50^\circ$

(16) $3x + 6 = 4x - 18$
 $3x + 24 = 4x$
 $24 = x$

(17) $2x = 68$
 $x = 34$

$3x - 15$
 $= 3(34) - 15 = 87$

(18) $11x + 18 + 7x = 180$
 $18x + 18 = 180$
 $18x = 162$
 $x = 9$

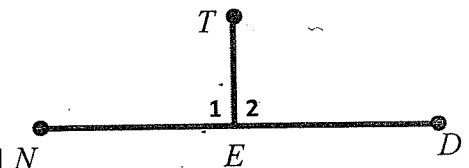
$68 + 87 + y = 180$
 $y = 25$

$9(9) + 8y + 4y + 3 = 180$
 $12y + 84 = 180$
 $12y = 96$
 $y = 8$

19.

Given: $\angle 1$ and $\angle 2$ are supplementary;
 $\overline{TE} \perp \overline{ND}$

Prove: $\angle 1 \cong \angle 2$



	Statements	Reasons
1	$\angle 1$ and $\angle 2$ are supplementary	Given
2	$m\angle 1 + m\angle 2 = 180^\circ$	def of Supplementary
3	$\overline{TE} \perp \overline{ND}$	Given
4	$m\angle 1 = 90^\circ$	def of perpendicular
5	$90^\circ + m\angle 2 = 180^\circ$	Substitution
6	$m\angle 2 = 90^\circ$	Subtraction Prop of =
7	$m\angle 1 = m\angle 2$	Substitution
8	$\angle 1 \cong \angle 2$	def of Congruence

Choices:

- Definition of Congruence
- Given
- Definition of Supplementary
- Definition of Perpendicular
- Substitution Property of Equality
- Substitution Property of Equality
- Subtraction Property of Equality
- Given