Unit 1 – TEST Review

Lessons 1-11

Work every problem to the best of your ability. Show all work. Circle your answers.

1. What is the name of the ray that divides an angle into 2 congruent parts called?

Angle Bisector

2. What is the intersection of two lines?

Vertex or Point

3. What is the intersection of two planes?

Line

4. Which of the following refers to line D F?

A. DF B. $\overline{DF}$

C. $\overleftrightarrow{DF}$ D. $\overrightarrow{DF}$
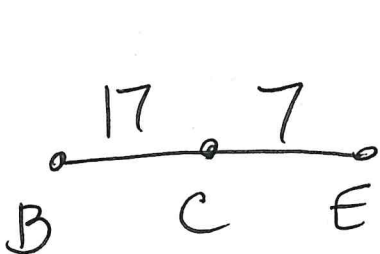
5. If T is between R and Q, which statement is true?

A. RT = TQ + RQ   B. TQ = RT + RQ

C. RT + TQ = RQ   D. RQ = TR – TQ

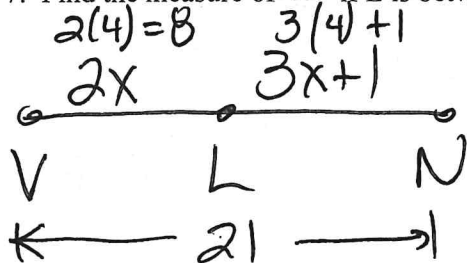6. Find the measure of $\overline{BE}$ if C is between B and E and BC = 17 and CE = 7

17   7

B   C   E

$17+7=24$

$\overline{VL}=8$
$\overline{LN}=13$

7. Find the measure of $\overline{VL}$ if L is between V and N and VL=2x, LN=3x + 1 and VN = 21

$2(4)=8$ $3(4)+1$
$2x$ $3x+1$

V   L   N

$\longleftarrow 21 \longrightarrow$

$2x+3x+1=21$
$5x+1=21$
$-1-1$
$5x=20$

$\dfrac{5x}{\div 5}=\dfrac{20}{\div 5}$

$x=4$

*Name:*_____ *Teacher:*_____

*Date:*_____

Unit 1 – TEST Review
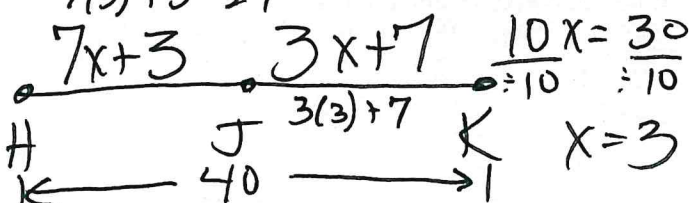
Lessons 1-11

Sketch a segment for each problem. Mark it with the given information. Then solve for x and the indicated measure.

8. Given: J is between H and K.
If HJ = 7x + 3, JK = 3x + 7 and HK = 40,
then find each of the following:

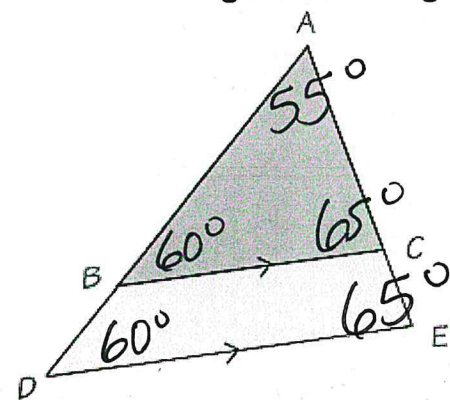x = __3__   JK = __16__

HJ = __24__ $7x+3+3x+7=40$ AB = __30__

$10x+10=40$
$-10 \quad -10$

Sketch below
$7(3)+3=24$

$7x+3 \quad 3x+7 \quad \dfrac{10x=30}{\div 10 \quad \div 10}$

$3(3)+7$

H •———J——•——K   x=3

←——— 40 ———→|

9. Given: Q is between A and B. If BQ = x + 7,
AQ = 21 and AB = 8x + 14, then find:

x = __2__   BQ = __9__

$21+x+7=8x+14$

$28+x=8x+14$
$-x \quad -x$

$28=7x+14$
$-14 \quad -14$

$14=7x$
$\div 7 \quad \div 7$

$x=2$

$2+7=9$

Sketch below

21   x+7

A •———Q——• B

←— 8x+14 —→|

$8(2)+14=30$

Refer to the figure at the right to answer each question.

10. Find measure of <ABC

__60°__ corr <'s /∆=180°
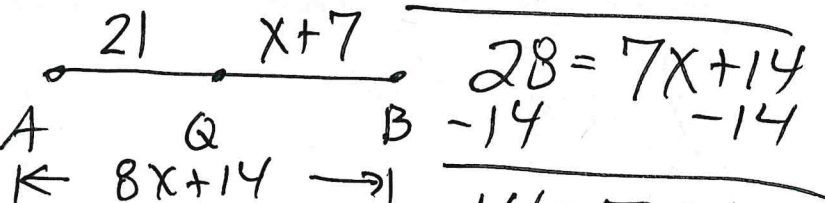
11. How many parallel lines are shown?

__2 or 1 set__

12. Find the measure of <ACB

__65°__ corr<s /∆=180°

13. Find the measure of <ADE

__60°__ ∆=180° /corr <'s

14. What is the reason you used to determine measure of the 3 above angles?
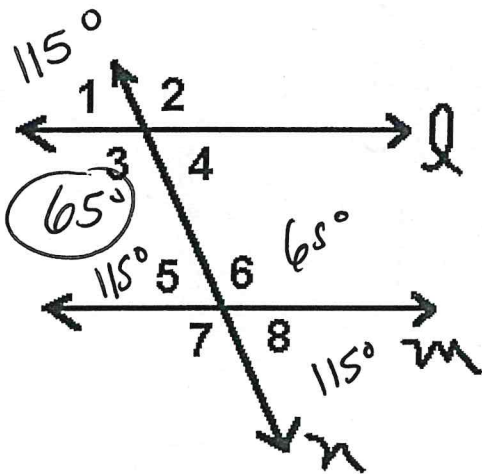
Unit 1 – TEST Review
Lessons 1-11

Review

Expression (no equal sign)
(do NOT solve)

15. $TX = 2x + 1, XW = x + 7; TW$

16. $WX = x + 5, TW = 4x + 5: TX$

$TW = 2x + 1 + x + 7 = \boxed{3x + 8}$

$TX = x + 5 + 4x + 5 = \boxed{5x + 10}$

Find the measure of each angle. List the reason you used to determine the angle measure.
Given angle m<3 is 65 degrees.

$115°$

1 2
3 4 ℓ
$\boxed{65°}$
$115°$ 5 6 $65°$
7 8 $115°$ m

Not to scale

17. m<1 = __$115°$__ Reason = __Supp. ∠'s__

18. m<5 = __$115°$__ Reason = __Same-side-int ∠'s /corr ∠'s__

19. m<6 = __$65°$__ Reason = __alt. int. ∠'s / supp. ∠'s__

20. m<8 = __$115°$__ Reason = __alt ext. ∠'s /Vertical ∠'s__

Unit 1 – TEST Review
Lessons 1-11

21. Find the value of x, 2x-3, 5x-8

$$3x+28 + 5x+52 + 2x-10 = 180$$

$$10x + 70 = 180$$
$$-70 -70$$
$$\overline{}$$
$$\frac{10x}{\div 10} = \frac{110}{\div 10}$$
$$x = 11$$

x= _____17_____

$3x+28$ $3(11)+28 = 61°$

$5x+52$ $5(11)+52 = 107°$

$2x-10 = 2(11)-10 = 12°$

Unit 1 – TEST Review
Lessons 1-11

21. Solve for the missing variable.

a. *skip. error on drawing*

120° 70°

b.

70°
25° b° c°
85°

$$\begin{array}{r} 180 \\ -70 \\ -25 \\ \hline \end{array}$$ $\triangle = 180$

$b = 85°$
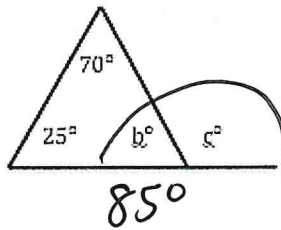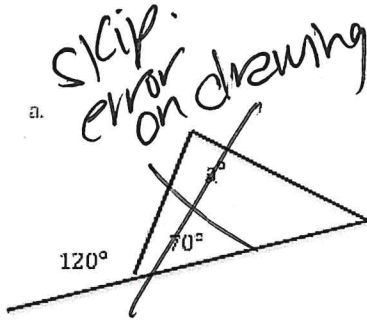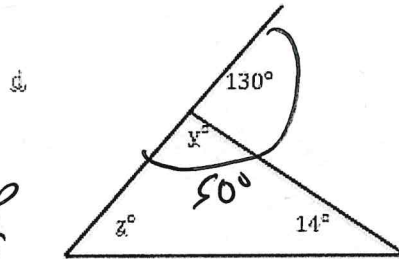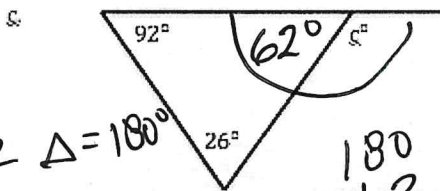
$$\begin{array}{r} 180 \\ -85 \\ \hline 95° \end{array}$$ supp. $\angle$'s

c.

92° 62° c°
26°

$$\begin{array}{r} 180 \\ -92 \\ -26 \\ \hline 62° \end{array}$$ $\triangle = 180°$

$$\begin{array}{r} 180 \\ -62 \\ \hline 118 \end{array}$$ supp $\angle$s

d.

130°
y°
50°
z° 14°

$$\begin{array}{r} 180 \\ -130 \\ \hline 50° \end{array}$$ supp $\angle$'s

A= _a=

C=_c= $118°$

B=___ b= $85°$ c= $95°$

D=___ y= $50°$ z= $116°$

$$\begin{array}{r} 180 \\ -14 \\ -50 \\ \hline 116° \end{array}$$ $\triangle = 180°$

Unit 1 – TEST Review
Lessons 1-11

22. Determine the value of each angle after the angle is bisected.

M<CBD= __65°__   M<CBA = __130°__

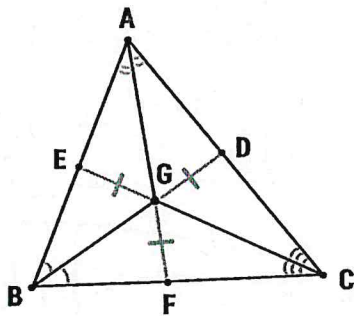$$65° + 65° = 130°$$
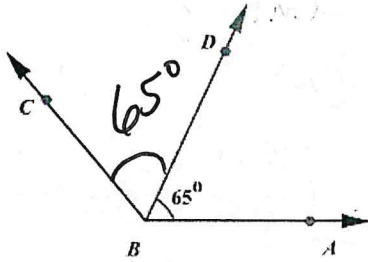
24.) The concurrent lines in this photo are doing what to the interior of the triangle? What is the point of congruency called?

Concurrent lines are doing what event to the interior of the triangle? __Angle Bisector__

What is the point of concurrency called? __Incenter__

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Unit 1 – TEST Review

Lessons 1-11

25.) The concurrent lines in this photo are doing what to the interior of the triangle? What is the point of congruency called?

Concurrent lines are doing what event to the interior of the triangle? _Perpendicular_

What is the point of concurrency called? _Circumcenter_ _Bisector_
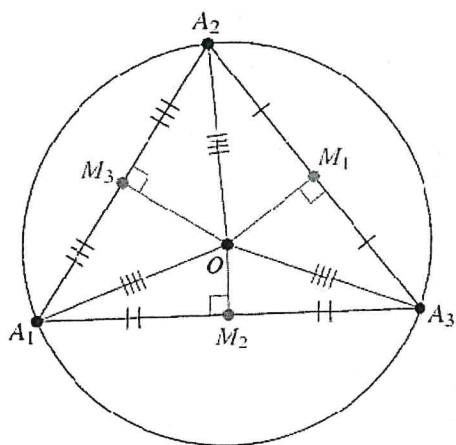
.Unit 1 – TEST Review
Lessons 1-11

26.) Complete the proof

Given> <XIA = 70 degrees, AX is parallel to OM , $<0 = 60°$

Find: m<X, m<A, ~~m<O~~, m<M
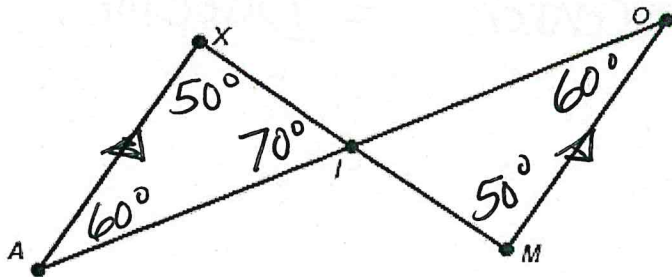
Statements	Reasons
① See Above	① Given
② m<A = 60°	② alt. int. <'s
③ m<X = 50° 180 – 60 – 70 = 50°	③ Δ's = 180°
④ m<M = 50°	④ Alt. int. <'s