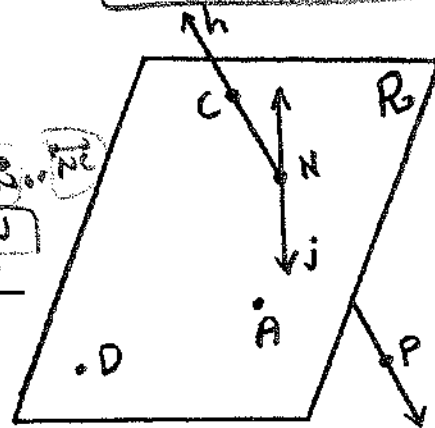


Geometry Chapter 1 Review

Name Solutions

I. Use the diagram to name the figures.

- 1) Three collinear points C, N, P
- 2) Another name for $\overleftrightarrow{PN}$, $\overleftrightarrow{NP}$ or line h or $\overleftrightarrow{CN}$
- 3) The intersection of line h and line j point N
- 4) Four NON-coplanar points D, A, N, P

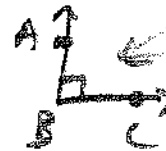


II. Draw the following:

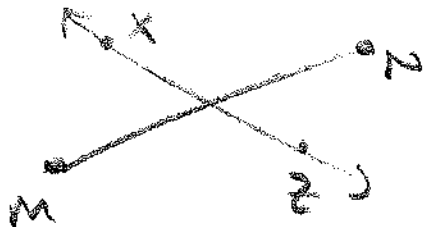
5) $\overrightarrow{TR}$



6) right angle $\angle ABC$ (The reader must know, without a reasonable doubt, that the angle drawn is a right angle!)



7) $\overleftrightarrow{MN}$ intersecting $\overleftrightarrow{XZ}$



8) $\overleftrightarrow{CT}$ with midpoint M (The reader must know, without a reasonable doubt, that point M is the midpoint!)



9) A linear pair



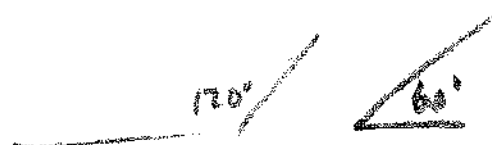
10) Vertical angles (identify which angles are vertical!)



Add up to 90°
11) Adjacent complementary angles



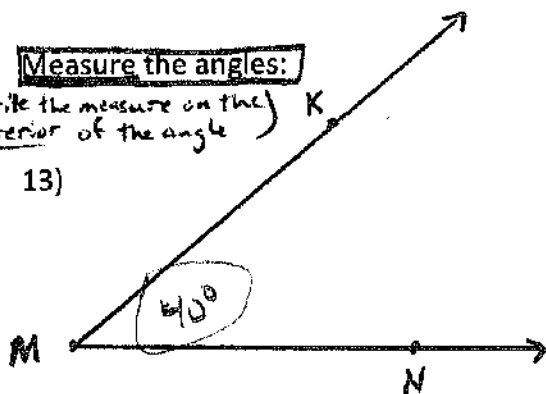
Add up to 180°
12) Non-adjacent supplementary angles



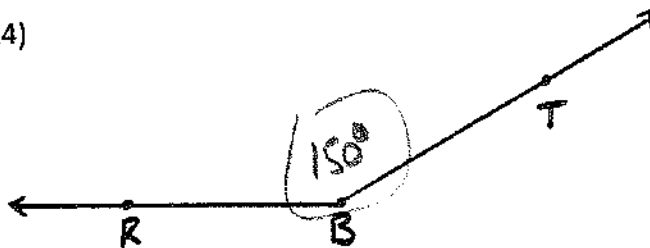
III. **Measure the angles:**

(write the measure on the interior of the angle)

13)



14)



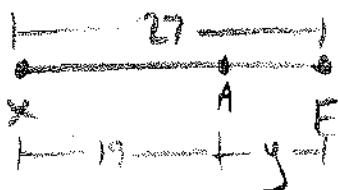
IV. **Name AND classify** the angles above (classify means...acute, obtuse, or right)

15) $\angle KMN$ is Acute
or $\angle NMK$

16) $\angle RBT$ is obtuse
or $\angle TBR$

V. **Problem solving** (draw a picture if one is not drawn for you): **SHOW YOUR WORK!!!**

17) If point A is between point X and point E, $XE = 27$ ft and $AX = 19$ ft, then $AE =$ 8 ft



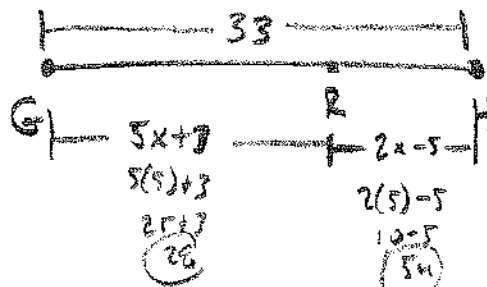
sum + sum = big

$$19 + y = 27$$

$$y = 27 - 19 = 8$$

18) If point R is between point G and point H, $GR = 5x + 3$, $RH = 2x - 5$ and $GH = 33$,

then $x =$ 5 $GR =$ 28 and $RH =$ 5



sum + sum = big

$$5x+3 + 2x-5 = 33$$

$$7x - 2 = 33$$

$$7x = 35$$

$$x = 5$$

19) $\angle A$ and $\angle B$ are a linear pair. If $m\angle A = 54^\circ$, then $m\angle B =$ 126



$$180 - 54 =$$

20) $\angle 3$ and $\angle 5$ are vertical angles. If $m\angle 5 = 32^\circ$, then $m\angle 3 =$ 32



21) $\angle 5$ and $\angle 1$ are supplementary angles. If $m\angle 5 = 42^\circ$, then $m\angle 1 =$ 138

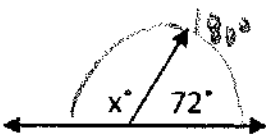
add up to 180

$$180 - 42 =$$

22) $\angle K$ and $\angle 2$ are complementary angles. If $m\angle 2 = 42^\circ$, then $m\angle K =$ 48

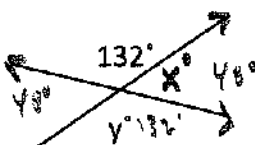
add up to 90

$$90 - 42 =$$

23) 

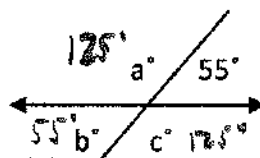
$x = \underline{108^\circ}$

180
 -72

24) 

$y = \underline{132^\circ}$

$x = \underline{48^\circ}$

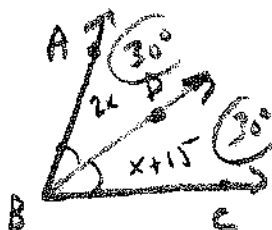
25) 

$a = \underline{125^\circ}$ $b = \underline{55^\circ}$

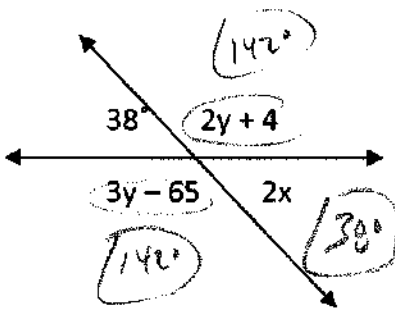
$c = \underline{125^\circ}$

(* Draw a picture, label picture, then solve)

26) If $\overrightarrow{BD}$ bisects $\angle ABC$, $m\angle ABD = 2x$ and $m\angle DBC = x + 15$, then $x = \underline{15}$, $m\angle ABD = \underline{30^\circ}$ and $m\angle DBC = \underline{30^\circ}$



$2x = x + 15$
 $x = 15$

27) 

$x = \underline{19}$

$y = \underline{69}$

*After finding x and y,
find all the angle measures

Solve for y

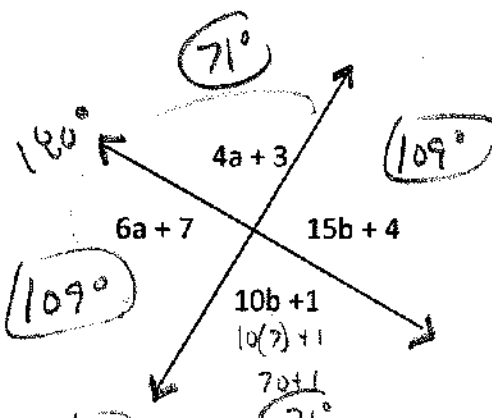
$3y - 65 = 2y + 4$

$y = \underline{69}$

Solve for x

$2x = 38$

$x = \underline{19}$

28) 

$a = \underline{17}$

$b = \underline{7}$

*After finding a and b, find all
the angle measures

Solve for a

$6a + 7 + 4a + 3 = 180$

$10a + 10 = 180$

$10a = 170$

$a = \underline{17}$

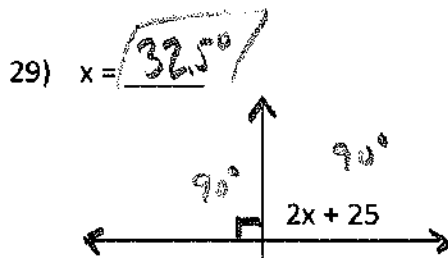
Solve for b

$15b + 4 + 10b + 1 = 180$

$25b + 5 = 180$

$25b = 175$

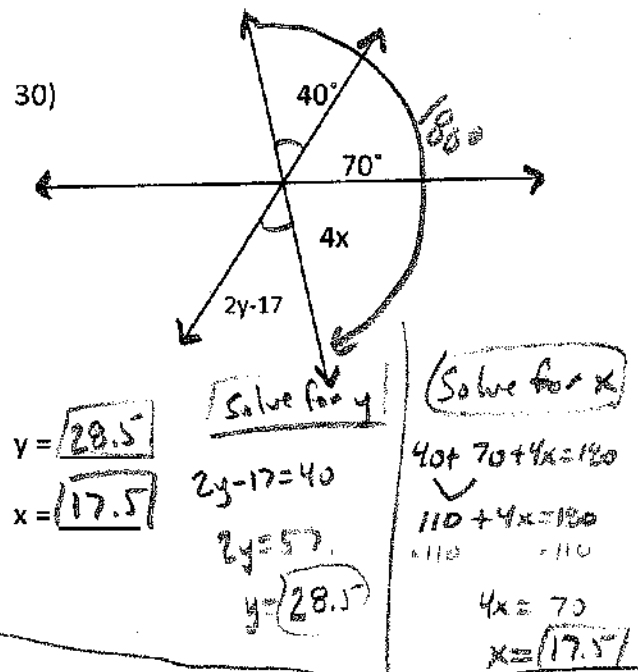
$b = \underline{7}$



$$2x + 25 = 90^\circ$$

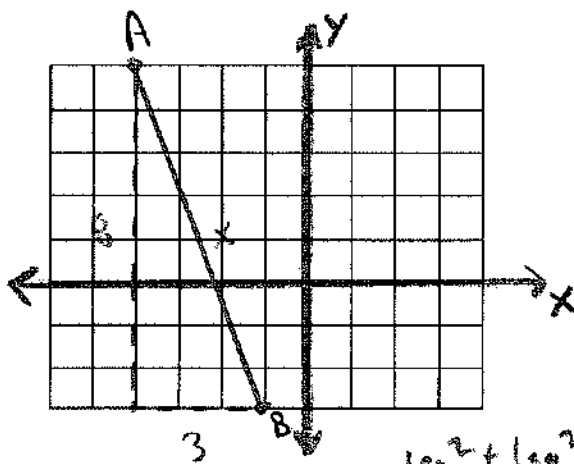
$$2x = 65^\circ$$

$$x = 32.5^\circ$$



30) Find the distance between A(-4, 5) and B(-1, -3)

i) Using PYTHAGOREAN THEOREM



$$73 = x^2$$

$$\sqrt{73} = x$$

$$x \approx 8.54$$

$$leg^2 + leg^2 = hyp^2$$

$$3^2 + 8^2 = x^2$$

$$9 + 64 = x^2$$

ii) Using DISTANCE FORMULA

$$d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

$$= \sqrt{(-1 - (-4))^2 + (-3 - 5)^2}$$

$$= \sqrt{(-1 + 4)^2 + (-8)^2}$$

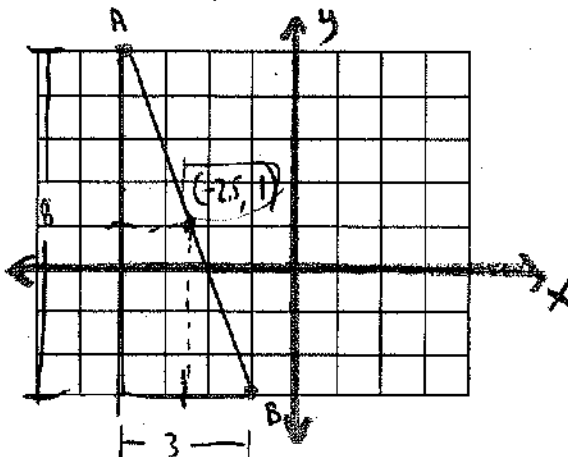
$$= \sqrt{3^2 + 64}$$

$$= \sqrt{73}$$

$$d \approx 8.54 \text{ units}$$

31) Find the midpoint of segment AB mentioned in problem 30:

i) Using the graph method



ii) Using MIDPOINT FORMULA

$$\left(\frac{x_2 + x_1}{2}, \frac{y_2 + y_1}{2} \right)$$

$$\left(\frac{-1 + (-4)}{2}, \frac{-3 + 5}{2} \right)$$

$$\left(\frac{-5}{2}, \frac{2}{2} \right)$$

$$(-2.5, 1)$$

The midpoint of AB