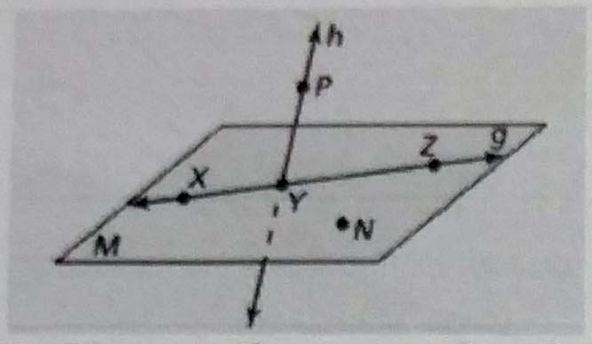
Name Key Per _____ Score: _____ /4

POINTS IN RED ARE APPROXIMATIONS OF HOW THE TEST WILL BE GRADED

Chapter 1 Group Review

Use the diagram for #1-3

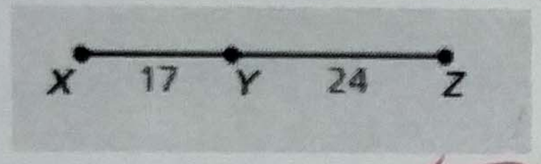


1. Give another name for plane M PLANE XYN (+2)

2. Name a line intersecting the plane. LINE h (+2)

3. Name a pair of opposite rays $\overrightarrow{YX}$ (+1), $\overrightarrow{YZ}$ (+1)

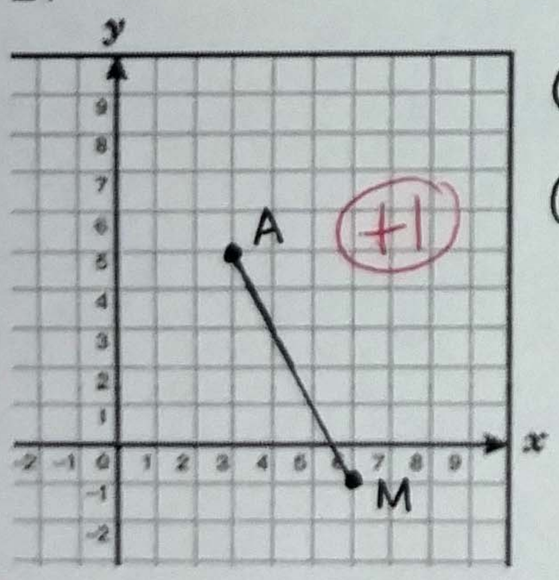
4. Find XZ. Start with a letter equation.



$XY + YZ = XZ$ (+1)
$17 + 24 = XZ$
$41 = XZ$

XZ = 41 (+1)

5. The midpoint of $\overline{AB}$ is M(6, -1). One endpoint is A(3, 5). Find the coordinates of the other endpoint, B.



(+1) $(x_m, y_m) = \left(\frac{x_1+x_2}{2}, \frac{y_1+y_2}{2}\right)$

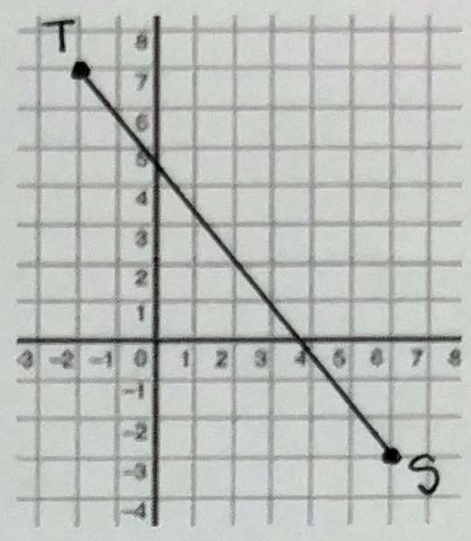
$(6,-1) = \left(\frac{3+x_2}{2}, \frac{5+y_2}{2}\right)$

$6 = \frac{3+x_2}{2}$ (+1)
$12 = 3 + x_2$
$9 = x_2$

$-1 = \frac{5+y_2}{2}$ (+1)
$-2 = 5 + y_2$
$-7 = y_2$

B is at (9 (+1), -7 (+1))

6. Find the coordinates of the midpoint, M, between S and T if S(6, -3) and T(-2, 7)



$(x_m, y_m) = \left(\frac{x_1+x_2}{2}, \frac{y_1+y_2}{2}\right)$ (+1)

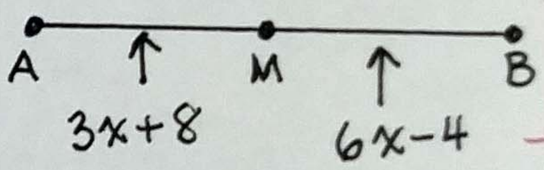
$(x_m, y_m) = \left(\frac{6+(-2)}{2}, \frac{(-3)+(7)}{2}\right)$

$(x_m, y_m) = \left(\frac{4}{2}, \frac{4}{2}\right)$ (+1)

$(x_m, y_m) = (2, 2)$

M is at (2 (+1), 2 (+1))

7. Point M is the midpoint of $\overline{AB}$, where $AM = 3x + 8$ and $MB = 6x - 4$. Find AB. Draw a diagram, and start with a letter equation.



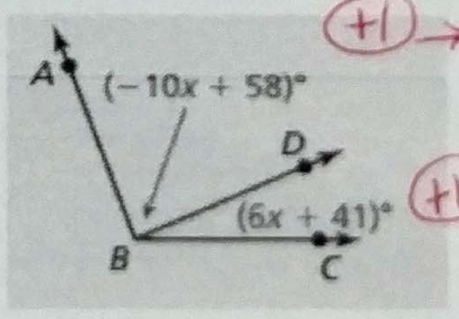
(+1)

(+1) $3x + 8 = 6x - 4$
$12 = 3x$
$4 = x$

$AB = AM + MB$ (+1)
$= (3x+8) + (6x-4)$
$= 9x + 4$

$9(4) + 4$
$= 36 + 4$
$= 40$ (+1)

8. Find $m\angle ABD$ and $m\angle CBD$ if $m\angle ABC = 111°$. Start with a letter equation.



(+1) $m\angle ABC = m\angle ABD + m\angle CBD$

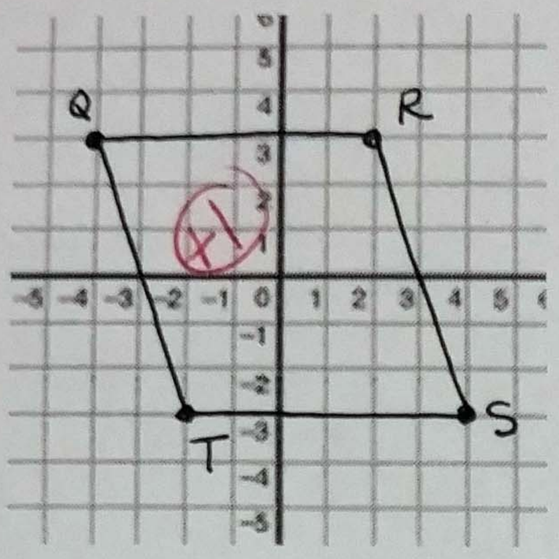
(+1) $111 = (-10x+58) + (6x+41)$
$111 = -4x + 99$
$12 = -4x$
$-3 = x$

(+1) $m\angle ABD = -10x + 58$
$= -10(-3) + 58$
$= 30 + 58$
$= 88°$ (+1)

(+1) $m\angle CBD = 6x + 41$
$= 6(-3) + 41$
$= -18 + 41$
$= 23°$ (+1)

9. Find the perimeter of the quadrilateral. Leave your answer in simplest radical form and combine any like terms.

Q(-4, 3), R(2, 3), S(4, -3) and T(-2, -3)



(+1)

$QR = |2-(-4)| = 6$ (+1)

$TS = |4-(-2)| = 6$ (+1)

$RS = \sqrt{(4-2)^2+(-3-3)^2}$
$= \sqrt{(2)^2+(-6)^2}$
$= \sqrt{4+36}$
$= \sqrt{40}$
$= 2\sqrt{10}$ (+1)

$QT = \sqrt{(-2-(-4))^2+(-3-3)^2}$
$= \sqrt{(2)^2+(-6)^2}$
$= \sqrt{4+36}$
$= \sqrt{40}$
$= 2\sqrt{10}$ (+1)

PERIMETER $= 6+6+2\sqrt{10}+2\sqrt{10}$ (+1)
$= 12+4\sqrt{10}$

Perimeter of QRST: $12+4\sqrt{10}$ (+1)

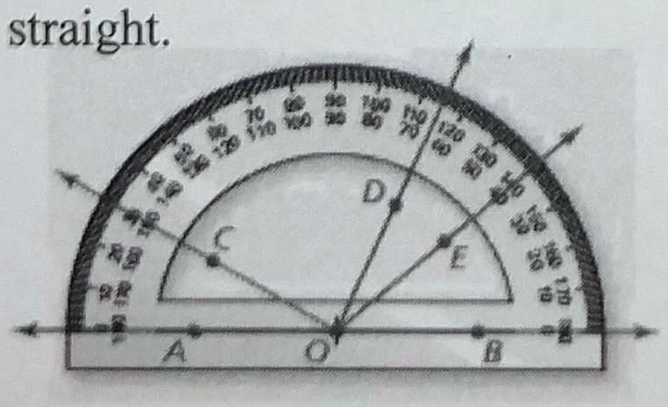
10. $\angle 1$ and $\angle 2$ are complementary angles. Given that $m\angle 1 = 12°$, find $m\angle 2$.

$m\angle 1 + m\angle 2 = 90°$ (+1)
$12 + m\angle 2 = 90$
$m\angle 2 = 78°$ (+1)

11. $\angle 3$ and $\angle 4$ are supplementary angles. Given that $m\angle 3 = 116°$, find $m\angle 4$.

$m\angle 3 + m\angle 4 = 180°$ (+1)
$116 + m\angle 4 = 180$
$m\angle 4 = 64°$ (+1)

12. Use the protractor to find the following angle measures. Then classify the angle as acute, right, obtuse, or straight.



a) $m\angle AOC$

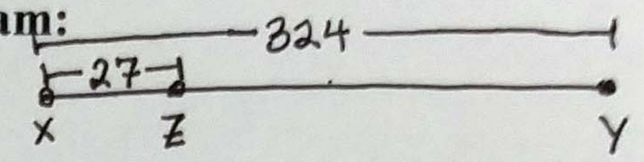
$|0-30| = 30°$ (+1)
ACUTE (+1)

b) $m\angle EOD$

$|140-115| = 25°$ (+1)
ACUTE (+1)

13. You travel from City X to City Y. You know that the distance is 324 miles. City Z, a city you pass on the way, is 27 miles from City X. Find the distance from City Z to City Y. Draw a diagram, and show all work.

Diagram:



(+1)

Work:

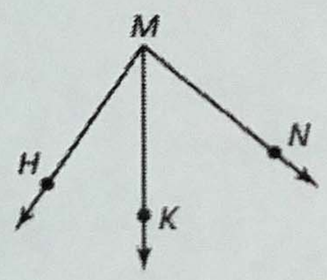
$XY = XZ + ZY$ (+1)
$324 = 27 + ZY$ (+1)
$297 = ZY$

297 miles (+1)

14. The measure of an angle is 12° more than two times the measure of its complement. Find the measures of the each of the angles.

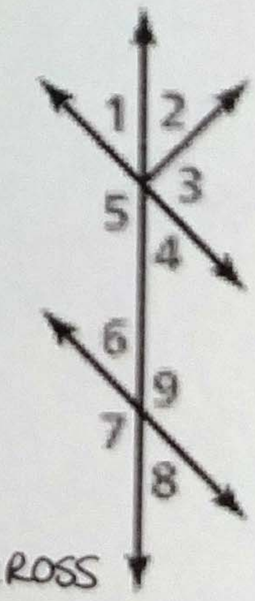
$x + (2x+12) = 90°$ (+1)
$3x+12 = 90$ (+1)
$3x = 78$
$x = 26°$ (+1)
$2(26)+12 = 52+12$
$= 64°$ (+1)

15. Name 3 different angles in the diagram.



$\angle HMN$ (or $\angle NMH$) (+1)
$\angle HMK$ (or $\angle KMH$) (+1)
$\angle KMN$ (or $\angle NMK$) (+1)

For #16-19, Use the diagram.



16. Identify all angles that make a linear pair with $\angle 1$. $\angle 5$ (+1)

17. Identify all angles that make a linear pair with $\angle 7$. $\angle 6$, $\angle 8$ (+1)

18. Are $\angle 6$ and $\angle 8$ vertical angles? Why or why not?

(+1) YES, THEY ARE DIRECTLY ACROSS FROM EACH OTHER AND ARE CONGRUENT (+1)

19. Are $\angle 2$ and $\angle 5$ vertical angles? Why or why not?

(+1) NO, THEY ARE NOT CONGRUENT (+1)