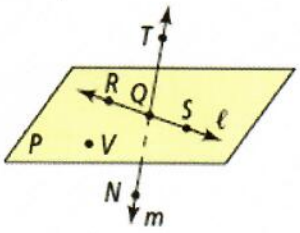
GEOM - CH 1 REV. SOLNS

GEOMETRY – Chapter 1 Review

Questions 1 – 4, consider the diagram.



1. Name two lines. $\overleftrightarrow{RS}$, $\overleftrightarrow{TQ}$, ℓ, m, $\overleftrightarrow{RQ}$, $\overleftrightarrow{QS}$, $\overleftrightarrow{TN}$
2. Name two opposite rays. $\overrightarrow{QS}$ $\overrightarrow{QR}$
3. Name the plane. P
4. Name 3 coplanar points. V, Q, R

5. Suppose M is between L and N. If $LM = 7y + 9, MN = 3y + 4, and\ LN = 143$, find:

LM + MN = LN

a. the value of y.

$(7y+9)+(3y+4) = 143$

$10y + 13 = 143$

$10y = 130$

$y = 13$

b. LM

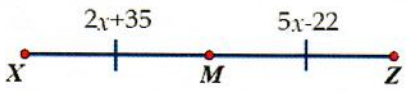
$LM = 7y + 9$

$= 7(13) + 9$

$= 91 + 9$

$= 100$

6. If M is the midpoint of $\overline{XZ}$, find the value of x.



$2x + 35 = 5x - 22$

$35 = 3x - 22$

$57 = 3x$

$19 = x$

$x_1\ y_1 \quad x_2\ y_2$

7. Find the distance between the points (-3, 4) and (-5, 7).

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

$= \sqrt{(-5-(-3))^2 + (7-4)^2}$

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

$= \sqrt{4+9}$

$= \sqrt{13}$

8. Find the coordinates of the midpoint of the segment with the given endpoints
J(-7, -5) and K(-3, 7)

$x_1\ y_1 \quad x_2\ y_2$

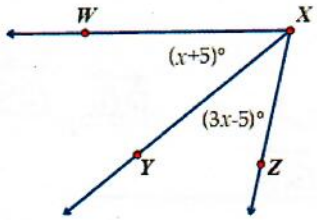
$M = \left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2}\right)$

$= \left(\frac{-7 + -3}{2}, \frac{-5 + 7}{2}\right)$

$= \left(\frac{-10}{2}, \frac{2}{2}\right)$

$M = (-5, 1)$

9. Given $m\angle WXZ = 80°$, find $m\angle YXZ$.



$m\angle WXZ = m\angle WXY + m\angle YXZ$

$80 = (x+5) + (3x-5)$

$80 = 4x$

$20 = x$

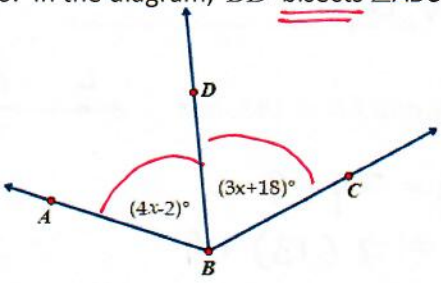
So, $m\angle YXZ = 3x - 5$

$= 3(20) - 5$

$= 60 - 5$

$= 55$

10. In the diagram, $\overrightarrow{BD}$ bisects $\angle ABC$. Find $m\angle ABC$.



$m\angle ABC = m\angle DBC$

$4x - 2 = 3x + 18$

$x - 2 = 18$

$x = 20$

So, $m\angle ABC = m\angle ABD + m\angle DBC$

$= 4x - 2 + 3x + 18$

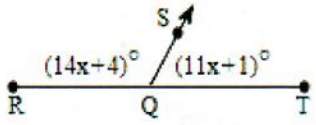
$= 4(20) - 2 + 3(20) + 18$

$= 80 - 2 + 60 + 18$

$= 78 + 60 + 18$

$= 156$

11. Consider the given diagram.



a. Find the value of x.

$(14x+4) + (11x+1) = 180$

$25x + 5 = 180$

$25x = 175$

$x = 7$

b. Find the $m\angle RQS$

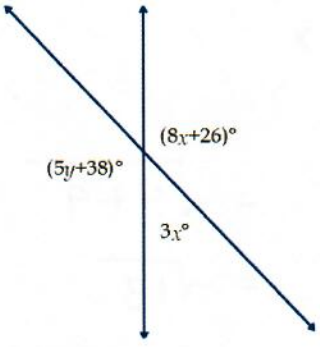
$m\angle RQS = 14x + 4$

$= 14(7) + 4$

$= 98 + 4$

$= 102$

12. Consider the given diagram.



a. Find the value of x.

linear pair

$(8x+26) + 3x = 180$

$11x + 26 = 180$

$11x = 154$

$x = 14$

b. Find the value of y.

vertical angles

$5y + 38 = 8x + 26$

$5y + 38 = 8(14) + 26$

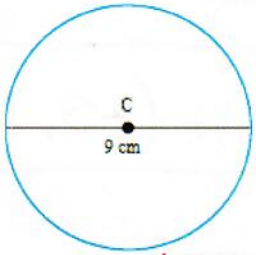
$5y + 38 = 112 + 26$

$5y + 38 = 138$

$5y = 100$

$y = 20$

13. Find the area and circumference of the circle.



$r = 4.5$ cm

$A = \pi r^2$

$A = \pi (4.5)^2$

$A = 20.25\pi$ cm^2

$A \approx 63.6$ cm^2

$C = 2\pi r$

$C = 2\pi (4.5)$

$C = 9\pi$ cm

$C \approx 28.26$ cm