Day 4 – Angle Relationships Practice

1.

Find $m\angle JKD$ if $m\angle DKL = 110°$ and $m\angle JKL = 138°$.

138
-110
$\angle JKD = 28°$

2.

$m\angle PQR = 170°$ and $m\angle PQJ = 43°$.
Find $m\angle JQR$.

170
-43
$\angle JQR = 127°$

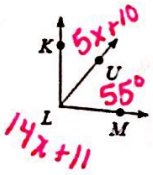
3.

$m\angle PBC = 25x + 1$, $m\angle ABC = 110x + 1$, and $m\angle ABP = 85°$. Find x.

$25x + 1 + 85 = 110x + 1$
$25x + 86 = 110x + 1$
$85 = 85x$
$1 = x$

4.

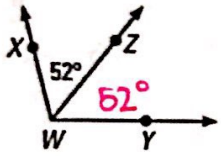
Find x if $m\angle KLM = 14x + 11$, $m\angle KLU = 5x + 10$, and $m\angle ULM = 55°$.



$5x + 10 + 55 = 14x + 11$
$5x + 65 = 14x + 11$
$54 = 9x$
$6 = x$

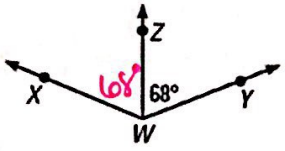
Given that $\overline{WZ}$ bisects $\angle XWY$, find the measure of the other two angles (whole angle and missing angle).

5.



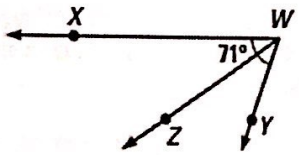
$\angle ZWY = 52°$
$\angle XWY = 104°$

6.



$\angle XWZ = 68°$
$\angle XWY = 136°$

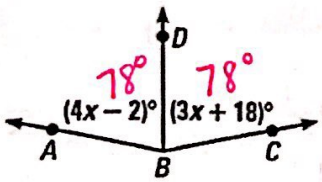
7.



$\angle XWZ = 35.5°$
$\angle YWZ = 35.5°$

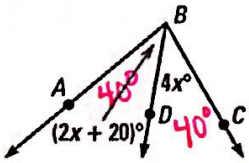
Given that $\overline{BD}$ bisects $\angle ABC$, find the measure of $\angle ABC$.

8.



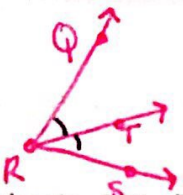
$4x - 2 = 3x + 18$
$x = 20$
$4(20) - 2 = 78°$
$\angle ABC = 156°$

9.



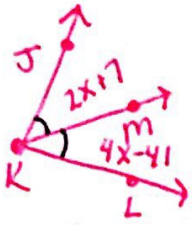
$2x + 20 = 4x$
$20 = 2x$
$10 = x$
$4(10) = 40°$
$\angle ABC = 80°$

10. $\overrightarrow{RT}$ bisects $\angle QRS$. Given that $m\angle QRS = 60°$, what are the measures of $\angle QRT$ & $\angle TRS$?



$\angle QRT = 30°$
$\angle TRS = 30°$

11. $\overrightarrow{KM}$ bisects $\angle JKL$. The measures of the two individual angles are $2x + 7°$ and $4x - 41°$. Find the measures of $\angle JKM$ and $\angle MKL$.



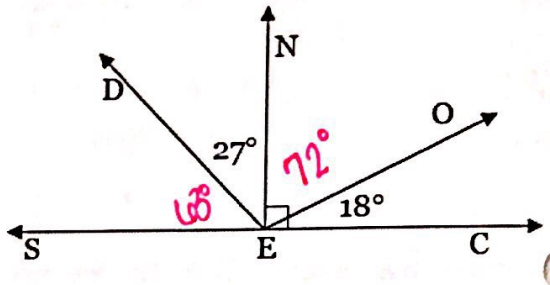
$2x+7 = 4x-41$
$48 = 2x$
$24 = x$

$\angle JKM = 2(24)+7$
$\angle JKM = 55°$
$\angle MKL = 55°$

12. Find the measure of each angle. **REVIEW**

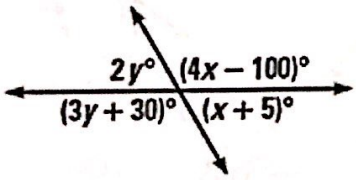
a. $m\angle NEO =$ 72° b. $m\angle DES =$ 63°

c. $m\angle DEO =$ 99° d. $m\angle SEO =$ 162°



13. Find the values of x and y. **REVIEW**

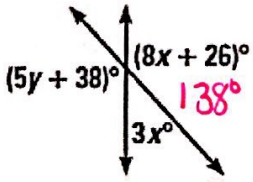
a.



$4x-100+x+5=180$
$5x-95=180$
$5x=275$
$x=55$

$2y+3y+30=180$
$5y+30=180$
$5y=150$
$y=30$

b.



$3x+8x+26=180$
$11x+26=180$
$11x=154$
$x=14$

$8(14)+26$

$5y+38=138$
$5y=100$
$y=20$