DAY 4 HOMEWORK – 1.3 BOOK WORK
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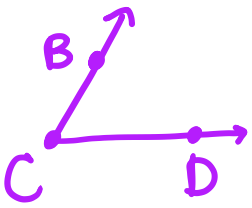
2. Which point is the vertex of $\angle BCD$? Which rays form the sides of $\angle BCD$?



C is the vertex

$\overrightarrow{CB}$ and $\overrightarrow{CD}$

L is in the interior of $\angle JKM$. Find each of the following.

7. $m\angle JKM$ if $m\angle JKL = 42°$ and $m\angle LKM = 28°$

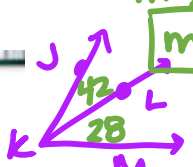
8. $m\angle LKM$ if $m\angle JKL = 56.4°$ and $m\angle JKM = 82.5°$

Multi-Step $\overrightarrow{BD}$ bisects $\angle ABC$. Find each of the following.

9. $m\angle ABD$ if $m\angle ABD = (6x + 4)°$ and $m\angle DBC = (8x - 4)°$

10. $m\angle ABC$ if $m\angle ABD = (5y - 3)°$ and $m\angle DBC = (3y + 15)°$

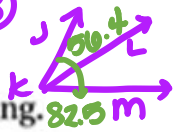
(7)



$m\angle JKM = 42 + 28$

$m\angle JKM = 70°$

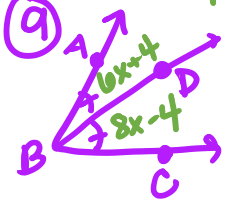
(8)



$m\angle LKM = 82.5 - 56.4$

$m\angle LKM = 26.1°$

(9)



part = part

$6x + 4 = 8x - 4$

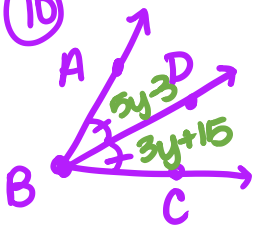
$8 = 2x$

$x = 4$

$m\angle ABD = 6(4) + 4$

$m\angle ABD = 28°$

(10)



part = part

$5y - 3 = 3y + 15$

$2y = 18$

$y = 9$

$m\angle ABC = 2(5y - 3)$

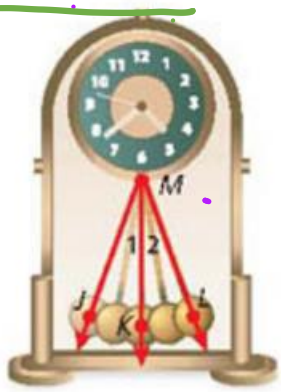
$= 2(42)$

$m\angle ABC = 84°$

* multiple ways to find $m\angle ABC$ *

PRACTICE AND PROBLEM SOLVING

11. Physics Pendulum clocks have been used since 1656 to keep time. The pendulum swings back and forth once or twice per second. Name all of the angles in the diagram.



$\angle 1$ $\angle JMK$ or $\angle KMJ$

$\angle 2$ $\angle KML$ or $\angle LMK$

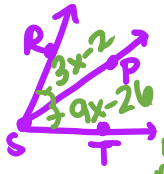
$\angle JML$ or $\angle LMJ$

Multi-Step $\overrightarrow{SP}$ bisects $\angle RST$. Find each of the following.

17. $m\angle RST$ if $m\angle RSP = (3x - 2)^\circ$ and $m\angle PST = (9x - 26)^\circ$

18. $m\angle RSP$ if $m\angle RST = \frac{5}{2}y^\circ$ and $m\angle PST = (y + 5)^\circ$

#17



part = part

$3x-2=9x-26$

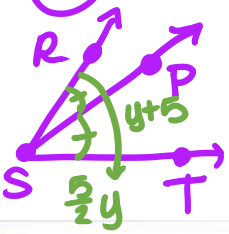
$24=6x$

$x=4$

$m\angle RST = 2[3(4)-2]$

$m\angle RST = 20°$

#18



part + part = whole

$y+5+y+5=\frac{5}{2}y$

$2y+10=\frac{5}{2}y$

$10=\frac{1}{2}y$

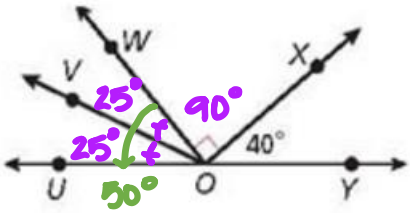
$y=20$

$m\angle RSP = y+5$

$=20+5$

$m\angle RSP = 25°$

41. $m\angle UOW = 50°$, and $\overrightarrow{OV}$ bisects $\angle UOW$. What is $m\angle VOY$?



$m\angle VOY = 25+90+40=155°$

(A) 25° (C) 130°

(B) 65° (D) 155°

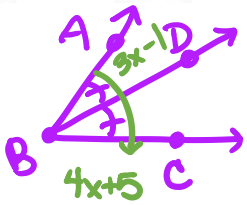
42. What is $m\angle UOX$?

$m\angle UOX = 50+90=140°$

(F) 50° (G) 115° (H) 140° (J) 165°

43. $\overrightarrow{BD}$ bisects $\angle ABC$, $m\angle ABC = (4x + 5)^\circ$, and $m\angle ABD = (3x - 1)^\circ$. What is the value of x?

(A) 2.2 (B) 3 (C) 3.5 (D) 7



part + part = whole

$3x-1+3x-1=4x+5$

$6x-2=4x+5$

$2x=7$

$x=7/2$ or 3.5

45. **Short Response** If an obtuse angle is bisected, are the resulting angles acute or obtuse? Explain.