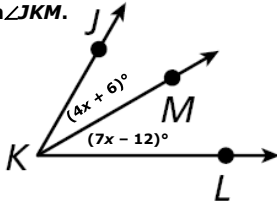


Created by Mr. Lischwe

Warm Up 1/(Reciprocal of 1/11)

\overrightarrow{KM} bisects $\angle JKL$.
Find $m\angle JKM$.



$m\angle JKM = 30^\circ$

QUIZ FRIDAY! (Probably)

- All the basics of geometry

Remember the difference...

- \overline{AB} = the **name** of the segment
- AB = the **length** of the segment
- $\angle DEF$ = the **name** of the angle
- $m\angle DEF$ = the **measure** of the angle

Draw an angle with the given name.

4. $\angle JTW$



5. $\angle NBQ$



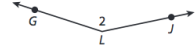
Name each angle in as many different ways as possible.

6.



$\angle W, \angle ZWX, \angle XWZ,$ and $\angle 1$

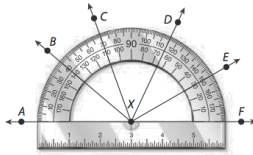
7.



$\angle L, \angle GLJ, \angle JLG,$ and $\angle 2$

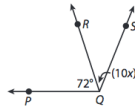
Use the Angle Addition Postulate to find the measure of each angle.

15. $\angle BXC$ $m\angle AXB + m\angle BXC = m\angle AXC$
 $40^\circ + m\angle BXC = 70^\circ$
 $m\angle BXC = 30^\circ$



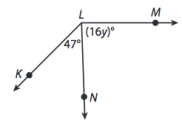
16. $\angle BXE$ $m\angle EXF + m\angle BXE = m\angle BXF$
 $30^\circ + m\angle BXE = 140^\circ$
 $m\angle BXE = 110^\circ$

20. Find the value of x , given that $m\angle PQS = 112^\circ$.



$m\angle PQR + m\angle RQS = m\angle PQS$
 $72 + 10x = 112$
 $x = 4$

21. Find the value of y , given that $m\angle KLM = 135^\circ$.



$m\angle KLN + m\angle NLM = m\angle KLM$
 $47 + 16y = 135$
 $y = 5.5$

25. Determine whether each of the following pairs of angles have equal measures. Select the correct answer for each lettered part.

A. $\angle KIL$ and $\angle LJM$
 B. $\angle MJP$ and $\angle PJR$
 C. $\angle LJP$ and $\angle NJR$
 D. $\angle MJK$ and $\angle PJR$
 E. $\angle KJR$ and $\angle MJP$

Yes No Yes No
 Yes No Yes No
 Yes No Yes No

a. no; $m\angle LJM = 90^\circ - 42^\circ = 48^\circ \neq m\angle KIL$
 b. yes; $m\angle NJP = 48^\circ$ so $m\angle MJP = 46^\circ + 48^\circ = 94^\circ$ and $m\angle PJR = 48^\circ + 46^\circ = 94^\circ$
 c. yes; $m\angle NJP = 48^\circ$ and $m\angle LJM = 90^\circ - 42^\circ = 48^\circ$, so $m\angle LJP = 48^\circ + 46^\circ + 48^\circ = 142^\circ$ and $m\angle NJR = 48^\circ + 48^\circ + 46^\circ = 142^\circ$
 d. no; $m\angle MJK = 90^\circ$, but $m\angle PJR = 48^\circ + 46^\circ = 94^\circ$
 e. no; $m\angle KJR = 360^\circ - 90^\circ - 46^\circ - 48^\circ - 48^\circ - 46^\circ = 82^\circ$, but $m\angle MJP = 46^\circ + 48^\circ = 94^\circ$

Postulate

(see back)

a statement that is accepted without proof

□ What is AC?

□ What is DF?

□ If three points are collinear, then the lengths of the two shorter segments equals the length of the larger segment.

Segment Addition Postulate

pg. 777

Let A, B, and C be collinear points. If B is between A and C, then $AB + BC = AC$

Notice: this means the length of segment \overline{AB} plus the length of segment \overline{BC} equals the length of segment \overline{AC}

Angle Addition Postulate

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□ If S is in the interior of $\angle PQR$, then $m\angle PQR = m\angle PQS + m\angle SQR$.

$m\angle XWZ = 121^\circ$ and $m\angle XWY = 59^\circ$. Find $m\angle YWZ$.

$m\angle YWZ = m\angle XWZ - m\angle XWY$ *∠ Add. Post.*
 $m\angle YWZ = 121^\circ - 59^\circ$ *Substitute the given values.*
 $m\angle YWZ = 62^\circ$ *Subtract.*

Table of Contents (2nd Semester)

p. 0	Geometry Basics Foldable
p. 1	Midpoint and Distance on a Coordinate Plane

Midpoint & Distance on a Coordinate Plane¹

Objective:

- Find the exact midpoint of a segment on a coordinate plane
- Find the exact distance between two points on a coordinate plane

Midpoint Exploration

Midpoint Formula

Midpoint of (x_1, y_1) and (x_2, y_2) is:

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

DON'T JUST MEMORIZE THE FORMULA. Understand what it means. You are finding the values halfway between the x's and halfway between the y's!!!

Answers to 5-8

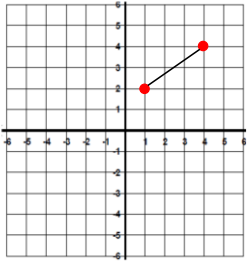
- 5) (7.5, 7)
- 6) (-6, 1)
- 7) $(\frac{1}{2}, -9)$
- 8) (-8, 2)

Distance

- Can we find the distance (aka the length) of a line?
- Can we find the distance (aka the length) of a line segment?

Distance Formula

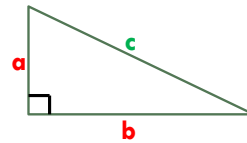
- How far apart are these two points???



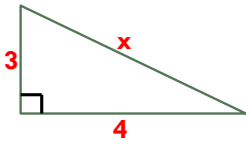
Quick Lesson: Pythagorean Theorem

- If a and b are the short sides (legs) of a right triangle, and c is the long side (hypotenuse), then

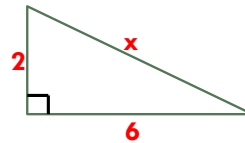
$$a^2 + b^2 = c^2$$



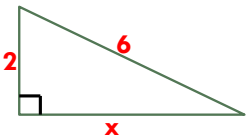
Find the missing side.



Find the missing side

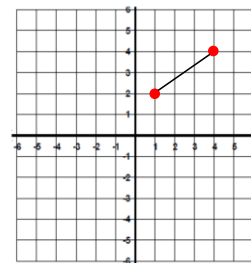


Find the missing side



How can we use the Pythagorean Theorem help us with this problem?

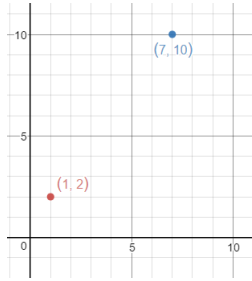
- How far apart are these two points?



Find the distance between the points

$(1, 2)$ and $(7, 10)$

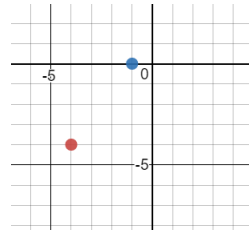
10 units



Find the distance between the points

$(-4, -4)$ and $(-1, 0)$

5 units



Homework

- Worksheet