

November 09, 2015

# Chapter 3 Review.notebook

## Chapter 3 Review

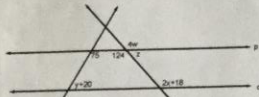
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What are the 7 ways to prove two lines are parallel?

Alternate Interior  $\cong$   
 Alternate Exterior  $\cong$   
 corresponding  $\cong$   
 Same side Interior supplementary  
 Same side Exterior supplementary  
 parallel to same line  
 perpendicular to same line

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Assume that  $p$  is parallel to  $q$ . Determine the value of each variable.



$$\begin{aligned} y+20+75 &= 180 \\ y+95 &= 180 \\ \boxed{y=85} \end{aligned}$$

$$\begin{aligned} 4w &= 124 \\ \frac{4}{4} \frac{124}{4} \\ \boxed{w=31} \end{aligned}$$

$$\begin{aligned} 124+z &= 180 \\ \boxed{z=56} \end{aligned}$$

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$$\begin{aligned} 2x+18 &= 124 \\ 2x &= 106 \\ \boxed{x=53} \end{aligned}$$

Fill in the chart with the name of each polygon.

Number of sides	Name
3	triangle
4	quadrilateral
5	pentagon
6	hexagon
7	heptagon / septagon
8	octagon
9	nonagon
10	decagon
11	hendecagon
12	dodecagon

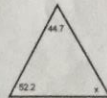
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First hand I see who can tell me the difference between:

Equilateral Polygon - sides equal  
 Equiangular Polygon - angles equal

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Find the value of  $x$ .

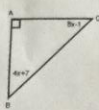


$$\begin{aligned} 44.7 \\ 52.2 \\ \hline 96.9 \end{aligned}$$

$$\boxed{x=83.1}$$

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Find the value of x and each angle.

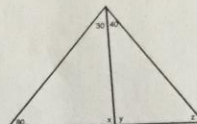


$$\begin{aligned} x &= 7 \\ \angle B &= 35 \\ \angle C &= 55 \end{aligned}$$

$$\begin{aligned} 4x+7+8x-1 &= 90 \\ 12x+6 &= 90 \\ 12x &= 84 \\ x &= 7 \end{aligned}$$

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Find the values of all the variables.

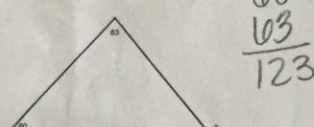


$$\begin{aligned} 180 \\ -110 \\ \hline 70 \end{aligned}$$

$$\begin{aligned} x &= 10 \\ y &= 110 \\ z &= 30 \end{aligned}$$

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Find the value of x.

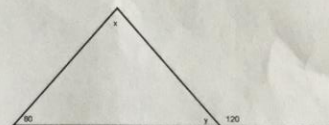


$$\begin{aligned} 60 \\ 60 \\ \hline 120 \end{aligned}$$

$$x = 123$$

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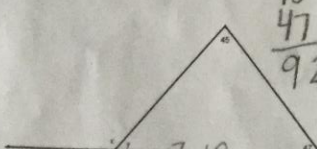
Find the value of x and y.



$$\begin{aligned} x &= 60^\circ \\ y &= 60^\circ \end{aligned}$$

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Find the value of x and y.



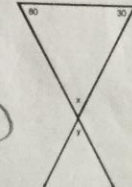
$$\begin{aligned} 45 \\ 47 \\ \hline 92 \end{aligned}$$

$$\begin{aligned} 180 \\ -92 \\ \hline 88 \end{aligned}$$

$$\begin{aligned} x &= 92 \\ y &= 88 \end{aligned}$$

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Find the value of x and y.



$$\begin{aligned} 80 \\ 30 \\ \hline 110 \end{aligned}$$

$$\begin{aligned} 180 \\ -110 \\ \hline 70 \end{aligned}$$

$$\begin{aligned} x &= 70 \\ y &= 70 \end{aligned}$$

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Determine the sum of the measures of a 76-gon. (Round answer to the nearest whole number if necessary.)

$$\begin{aligned} (n-2)(180) \\ (76-2)(180) \\ (74)(180) \\ 13320 \end{aligned}$$

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What is the sum of the measures of the exterior angles of a 36-gon? (Round answer to the nearest whole number if necessary.)

$$360^\circ$$

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What is the measure of each interior angle of a regular 24-gon? (Round answer to the nearest whole number if necessary.)

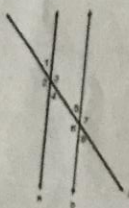
$$\begin{aligned} (n-2)(180) \\ (24-2)(180) \\ (22)(180) \\ \hline 24 \\ 165^\circ \end{aligned}$$

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What is the measure of each exterior angle of a regular heptagon? (Round answer to the nearest whole number if necessary.)

$$\begin{aligned} \text{heptagon} &= 7 \text{ sides} \\ \frac{360}{7} &= 60^\circ \end{aligned}$$

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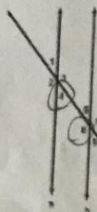


Assume line a is parallel to line b.

What are ALL of the angles congruent to  $\angle 7$ ?

$$\angle 3, \angle 2, \angle 6$$

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Assume line a is parallel to line b.

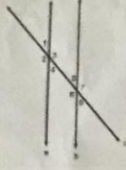
If  $\angle 4 = (x+70)$  and  $\angle 6 = x$ . Determine the value of  $x$ .

same-side interior supp.

$$\begin{aligned} x+70+x &= 180 \\ 2x+70 &= 180 \\ 2x &= 110 \\ x &= 55 \end{aligned}$$

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Assume line a is parallel to line b.

If  $\angle 3 = (x+40)$  and  $\angle 7 = (3x-10)$ ,  
Determine the value of x.

Corresponding  
( $\cong$ )

$$x+40 = 3x-10$$

$$40 = 2x-10$$

$$50 = 2x$$

$$25 = x$$

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Draw a polygon that is concave.

answers vary


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What are the four ways to classify a triangle based upon angles?

- equiangular
- acute
- right
- obtuse

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Assume line a is parallel to line b.

If  $\angle 1 = 75$  degrees, then what is  $\angle 8$ ?

Alternate Exterior ( $\cong$ )

$$\angle 8 = 75^\circ$$

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What are the three ways to classify a triangle based upon its sides?

- equilateral
- isosceles
- scalene

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What two things do we know if a figure is a regular polygon?

equilateral - all sides equal

+

equiangular - all angles equal

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How many angles are formed by two parallel lines and a transversal?

8

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