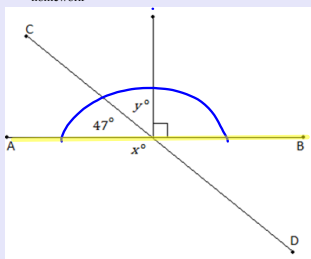


11/29 Aim: Solving for unknown angles with parallel lines
 Do now: Take out your last packet, do any problems that we didn't complete check your answers with your neighbor.

Homework: complete packet (2x-14) Worksheet Quiz Thursday or Friday in lab

homework

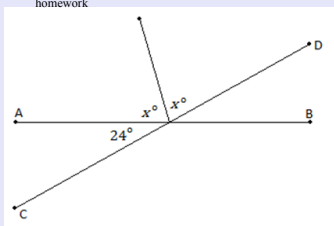


$x = 133^\circ$
 $y = 43^\circ$
 $47 + y + 90 = 180$
 $y = 43$

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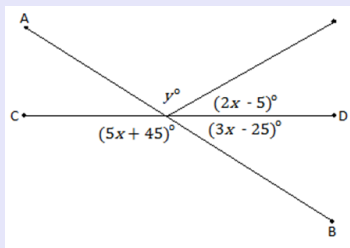
homework



$x = 78$

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homework

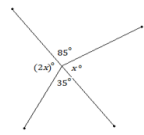


$x = 20$
 $y = 110$

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For Problems 6-12, find the values of x and y . Show all work.

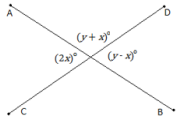
6.



$x = \underline{\hspace{2cm}}$

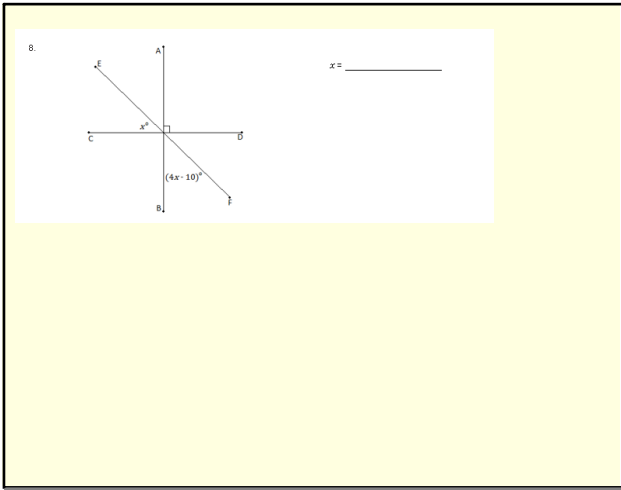
Nov 6-3:53 PM

7.

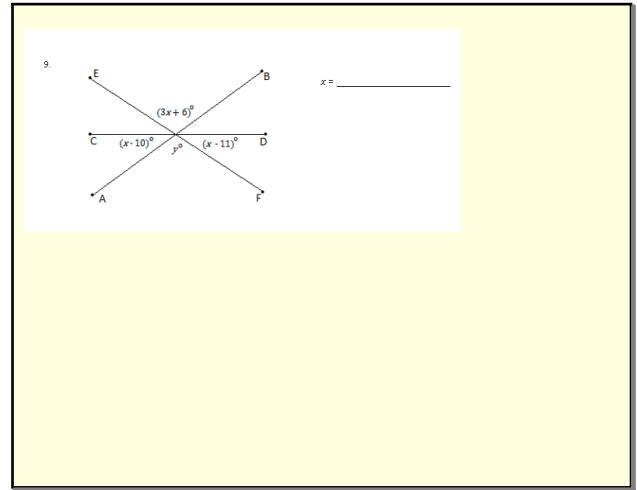


$y = \underline{\hspace{2cm}}$ $x = \underline{\hspace{2cm}}$

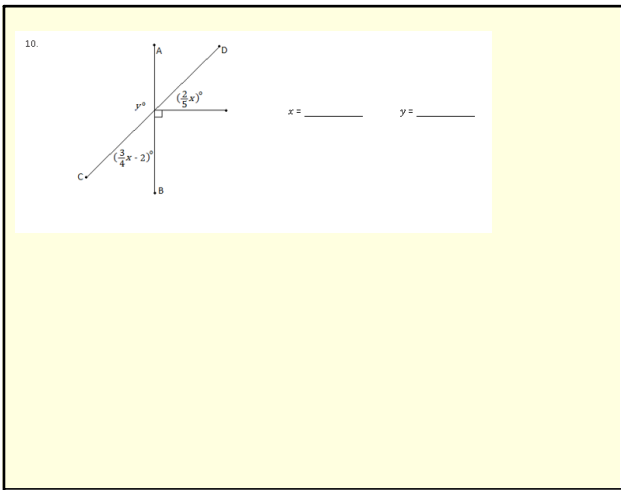
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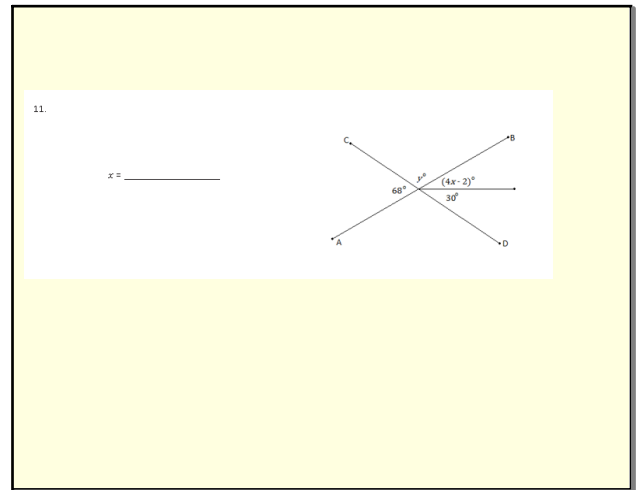
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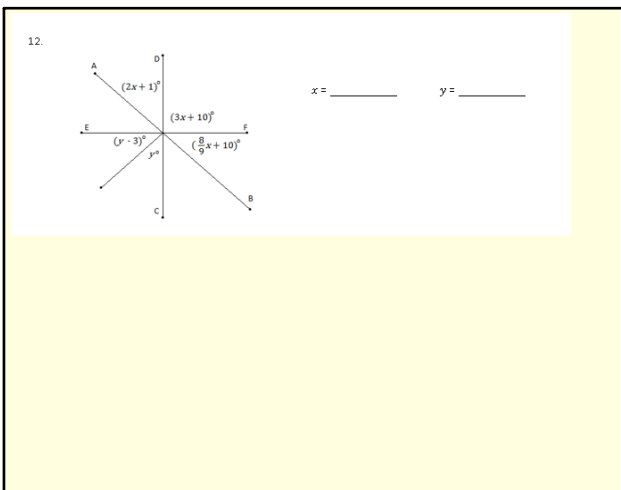
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Nov 6-3:54 PM



Nov 6-3:54 PM

aim: Solving for unknown angles
 Homework: Complete the packet
 Lab Quizzes start again next week

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$x =$ _____
 $y =$ _____
 Name a pair of vertical angles.

$\angle AOC$ and $\angle DOB$ are vertical
 $\angle AOC \cong \angle DOB$

$$90 + x + 8 + 2x - 8 = 180$$

$$3x = 90$$

$$x = 30$$

$$y = 2x - 8$$

$$y = 2(30) - 8 = 52$$

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Find the measure of $\angle BOF$. Justify your calculation.

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Given line AB and line CD in a plane (see the diagram below), a third line EF is called a **transversal** if it intersects \overleftrightarrow{AB} at a single point and intersects \overleftrightarrow{CD} at a single but different point. Line AB and line CD are parallel if and only if the following types of angle pairs are congruent or supplementary

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- Corresponding angles are equal in measure

$\angle b \cong \angle f$
 $\angle a \cong \angle e$
 $\angle d \cong \angle h$
 $\angle c \cong \angle g$

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- Alternate interior angles are equal in measure

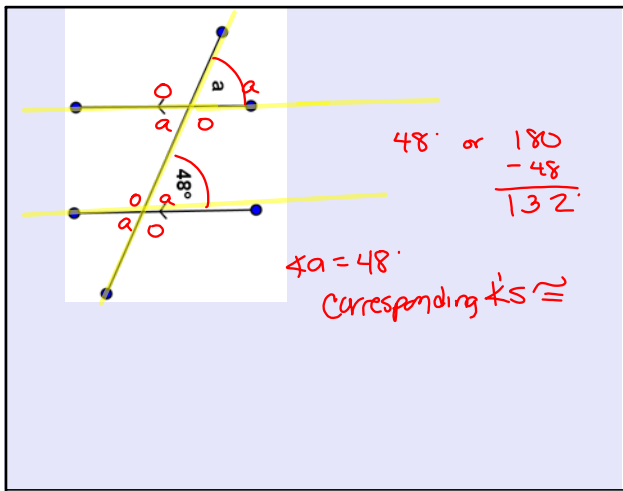
$\angle d \cong \angle c$
 $\angle c \cong \angle f$

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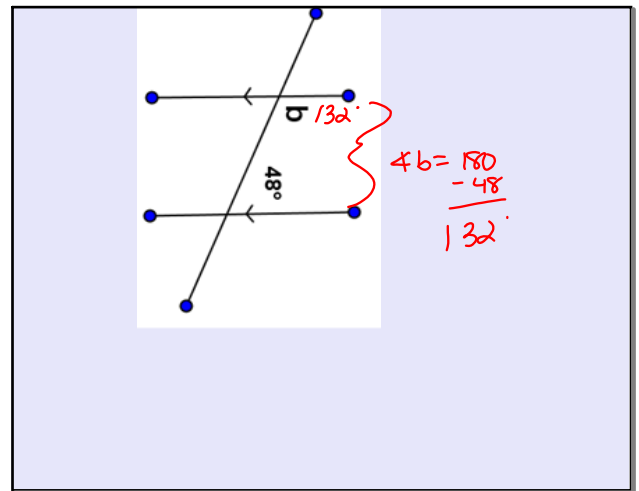
- Same side interior angles are supplementary

$\angle c + \angle e = 180^\circ$
 $\angle d + \angle f = 180^\circ$

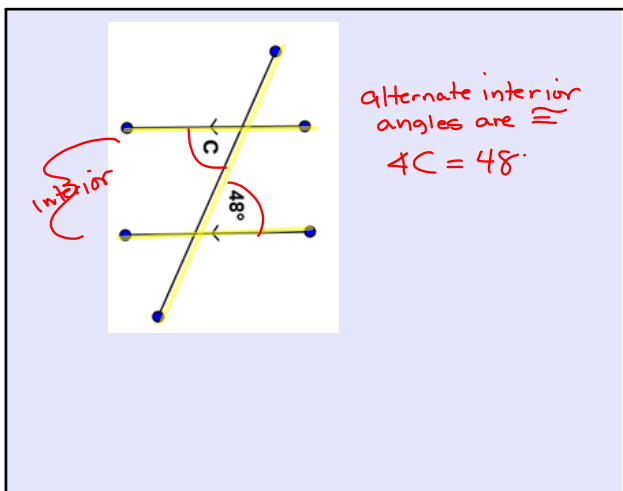
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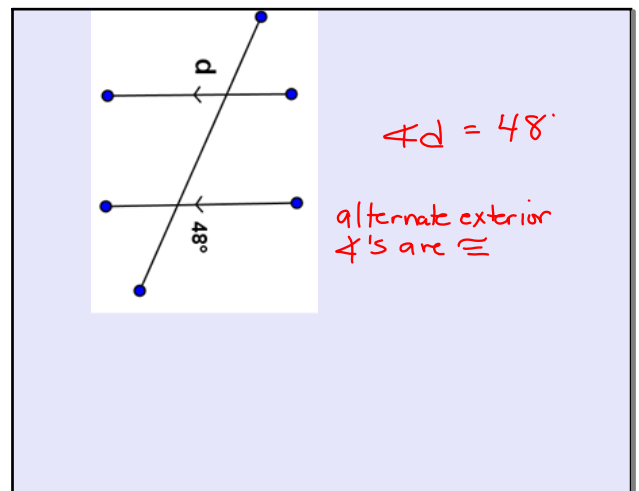
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5. An auxiliary line is sometimes useful when solving for unknown angles.

In this figure, we can use the auxiliary line to find the measures of $\angle e$ and $\angle f$ (how?), then add the two measures together to find the measure of $\angle w$.

What is the measure of $\angle w$?

$e = 41^\circ$
 $f = 35^\circ$
 $\angle w = 41 + 35 = 76^\circ$

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Exercises

In each exercise below, find the unknown (labeled) angles. Give reasons for your solutions.

$\angle a = 53^\circ$
 $\angle b = 53^\circ$
 $\angle c = 127^\circ$

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2

acute
obtuse
 d
 35°
 35°

$\angle d = 145^\circ$

180
 $- 35$

 145

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3

54°
 e
 f
 112°

$\angle e = 5$
 $\angle f = 68$

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4

144°
 180
 $- 88$

 92

56°

$\angle g = 36 + 56 = 92^\circ$

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5

162°
 98°
 h

$\angle h = \underline{\hspace{2cm}}$

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6

117°
 i
 129°

$\angle i = \underline{\hspace{2cm}}$

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7

92°
 m
 j
 k
 46°

$\angle j = \underline{\hspace{2cm}}$
 $\angle k = \underline{\hspace{2cm}}$
 $\angle m = \underline{\hspace{2cm}}$

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8

$n = \underline{\hspace{2cm}}$

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9

$p = \underline{\hspace{2cm}}$
 $q = \underline{\hspace{2cm}}$

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10

$r = \underline{\hspace{2cm}}$

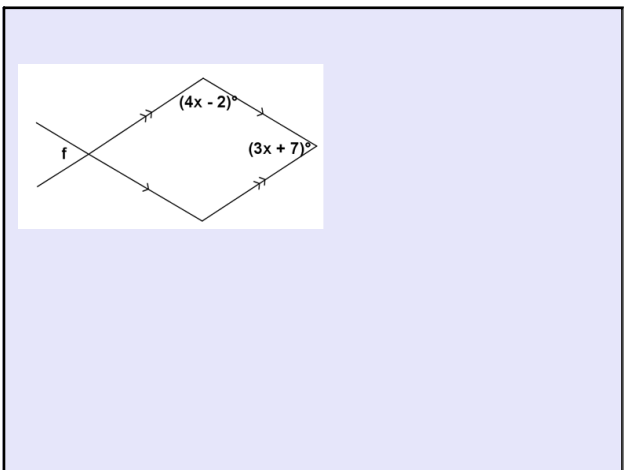
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Problem Set
 Find the unknown (labeled) angles. Give reasons for your solutions.

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complete exit ticket for homework

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Nov 20-1:56 PM