5-9-17

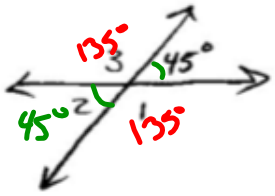
Aim: SWBAT find missing angle measurements and justify.

Do Now: Find the missing angles. Justify your reasoning.

vertical: $\cong$

Complementary: 90°

supplementary: 180°



$m\angle 1 = 135^\circ$ supp. to the given

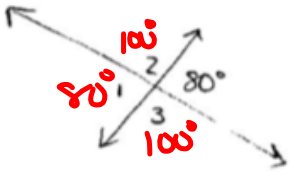
$m\angle 2 = 45^\circ$ vertical angle are congruent

$m\angle 3 = 135^\circ$ supp. to the given

HW: Quiz tomorrow (Angle Relationships)

Final Review Packet due June 2

Find the missing angles. Justify your reasoning.



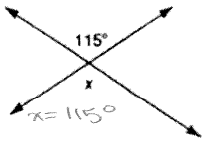
$m\angle 1 = 80^\circ$ Vertical $\angle$'s are always $\cong$

$m\angle 2 = 100^\circ$ Supp. to the given

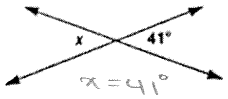
$m\angle 3 = 100^\circ$ supp. to the given

Angle Relationships

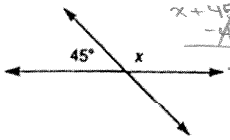
Find the value of x in each figure.

1. 

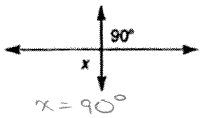
$x = 115°$

2. 

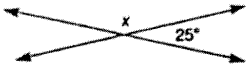
$x = 41°$

3. 

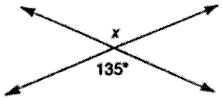
$x + 45 = 180$
$-45 \quad -45$
$x = 135°$

4. 

$x = 90°$

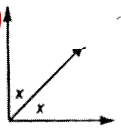
5. 

$x + 25 = 180$
$-25 \quad -25$
$x = 155°$

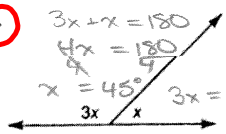
6. 

$x = 135°$

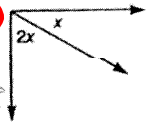
Each of the following pairs of angles is either complementary or supplementary. Find the measure of each angle.

7. 

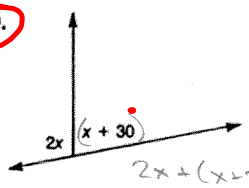
$x + x = 90$
$\frac{2x}{2} = \frac{90}{2}$
$x = 45°$

8. 

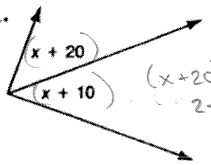
$3x + x = 180$
$\frac{4x}{4} = \frac{180}{4}$
$x = 45°$
$3x = 3 \cdot 45 = 135°$

9. 

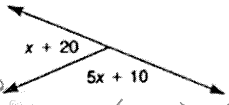
$x + 2x = 90$
$\frac{3x}{3} = \frac{90}{3}$
$x = 30°$
$2x = 2 \cdot 30 = 60°$

10. 

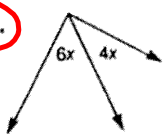
$2x + (x + 30) = 180$
$3x + 30 = 180$
$-30 \quad -30$
$\frac{3x}{3} = \frac{150}{3}$

11. 

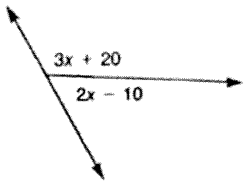
$(x+20) + (x+10) = 90$
$2x + 30 = 90$
$-30 \quad -30$
$\frac{2x}{2} = \frac{60}{2}$
$x = 30$
$(x+20) = 50°$
$(x+10) = 40°$

12. 

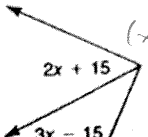
$(x+20) + (5x+10) = 180$
$6x + 30 = 180$
$-30 \quad -30$
$\frac{6x}{6} = \frac{150}{6}$
$x = 25$
$(x+20) = 45°$
$(5x+10) = 135°$

13. 

$6x + 4x = 90$
$\frac{10x}{10} = \frac{90}{10}$
$x = 9$
$6x = 54°$
$4x = 36°$

14. 

$(3x+20) + (2x-10) = 180$
$5x + 10 = 180$
$-10 \quad -10$
$\frac{5x}{5} = \frac{170}{5}$
$x = 34$
$(3x+20) = 122°$
$(2x-10) = 58°$

15. 

$(2x+15) + (3x-15) = 90$
$\frac{5x}{5} = \frac{90}{5}$
$x = 18$
$(2x+15) = 51°$
$(3x-15) = 39°$

Which angles are across from each other? Vertical Adjacent

Which angles are next to each other? Vertical Adjacent

Which angles are always the same measures? Vertical Adjacent

Which type of angle relationship totals to 90 degrees?

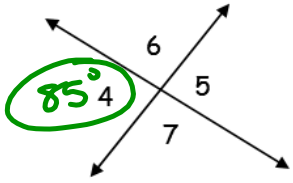
Vertical Adjacent Complementary Supplementary

Which type of angle relationship totals to 180 degrees?

Vertical Adjacent Complementary Supplementary

Are adjacent angles always complementary or supplementary? Yes No

Use the following diagram to answer the next set of questions.



Name 2 pairs of vertical angles. ∠4 & ∠5 ; ∠6 & ∠7

Name 4 pairs of adjacent angles. ∠6 & ∠5 ; ∠5 & ∠7 ; ∠7 & ∠4 ; ∠4 & ∠6

Name 4 pairs of supplementary angles. ∠6 & ∠5 ; ∠5 & ∠7 ; ∠7 & ∠4 ; ∠4 & ∠6

If m∠ 4 = 85°, what is the measure of ∠6? Why? 95° Supp.

If m∠ 4 = 85°, what is the measure of ∠7? Why? 95° Supp.

If m∠ 4 = 85°, what is the measure of ∠5? Why? 95° Vertical ∠s are always ≅