Do Now:

Find the measure of each angle

$22 + 19$
$x + 19$

41

x $x + 5$

$22°$ $27°$
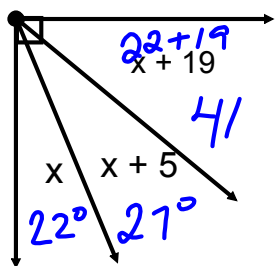
Complementary

Sum = 90

$x + x + 5 + x + 19 = 90$

$3x + 24 = 90$

$-24 \quad -24$

$\dfrac{3x}{3} = \dfrac{66}{3}$

$x = 22$

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Classwork Answers

1) $x = 40$

2) $x = 20$

3) $x = 40$

4) $x = 30$

5) $x = 50$

6) $x = 1$

7) $x = 10$

Homework Answers

1) $y = 18$

   $54°$
   $36°$

2) $x = 22$
   $\angle AED = 142°$
   $\angle DEB = 38°$

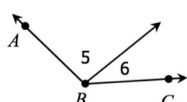3) $x = 38$
   $\angle UVS = 99°$
   $\angle TVS = 81°$
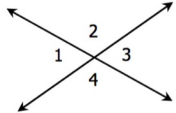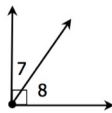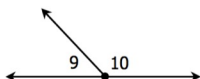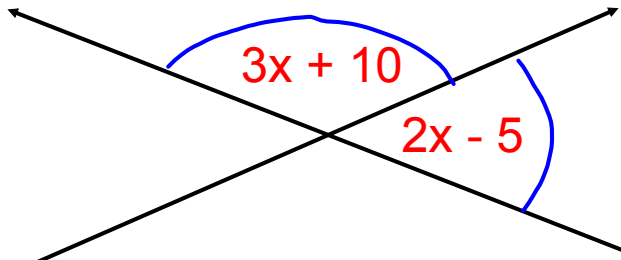
4) $x = 7$
   $53°$
   $37°$

Jan 8-6:41 AM

Angles with Algebra Practice

	Diagram	Description
VERTICAL ANGLES		**Vertical angles** are two angles that are _opposite_ of each other when two lines intersect. These angles are _equal to each other_.
ADJACENT ANGLES		**Adjacent angles** are two angles that share a common _vertex_ and _side (ray)_ They are _next to_ each other.
COMPLEMENTARY ANGLES		**Complementary angles** are any two angles in which the _sum_ of their measures is _$90°$_.
SUPPLEMENTARY ANGLES		**Supplementary angles** are any two angles in which the _sum_ of their measures is _$180°$_.
		Complementary and supplementary angles do NOT have to be adjacent!

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3x + 10

2x - 5

Supplementary
Sum = 180

$3x + 10 + 2x - 5 = 180$
$5x + 5 = 180$
$ -5 \quad -5$
_____
$\dfrac{5x}{5} = \dfrac{175}{5}$
$x = 35$

3x + 10   2x - 5
3(35) + 10   2(35) - 5
115°   65°

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$\angle DBE = 50°$

$\angle EBF = 40°$

D

E

F

$45+5$

$50°$

$y+5$

$45-5$

$40°$ $y-5$

$2(18)$

$2x$

$36°$

$3(18)$

$3x$

B

A

$\angle DBC = 36°$

$\angle CBA = 54°$

C

$54°$

$y-5+y+5 = 90$

$$\frac{2y}{2} = \frac{90}{2}$$

$y = 45$

$2x + 3x = 90$

$$\frac{5x}{5} = \frac{90}{5}$$

$x = 18$

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$109°$

$(8x + 31)°$

$71°$

$109°$

$(16x - 9)°$

$71°$

Vertical

Equal

$180 - 71$

$109°$
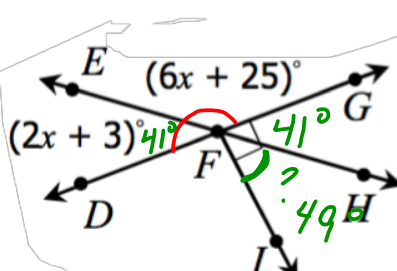
$8x + 31$

$8(5) + 31$

$40 + 31$

$71°$

$8x + 31 = 16x - 9$

$-8x \qquad -8x$

$31 = 8x - 9$

$+9 \qquad\qquad +9$

$$\frac{40}{8} = \frac{8x}{8}$$

$5 = x$

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E   (6x + 25)°
(2x + 3)° 41°   41° G
        F   ?
D   49 H
    I

$2x + 3 + 6x + 25 = 180$

$8x + 28 = 180$
$-28 \quad -28$

$\dfrac{8x}{8} = \dfrac{152}{8}$

$\angle GFH = 41° \quad X = 19$

$< EFD \quad 2x + 3$
$2(19) + 3$
$38 + 3$
$< EFD = 41°$

$\angle HfI = 49$
$90 - 41$

$< EFG = 6x + 25$
$6(19) + 25$
$114 + 25$
$139°$

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