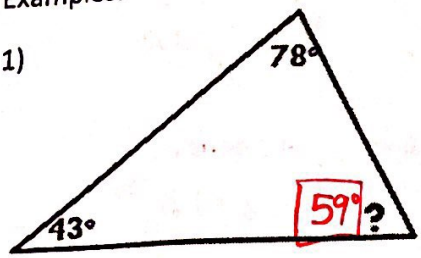
Quiz Review: Angles

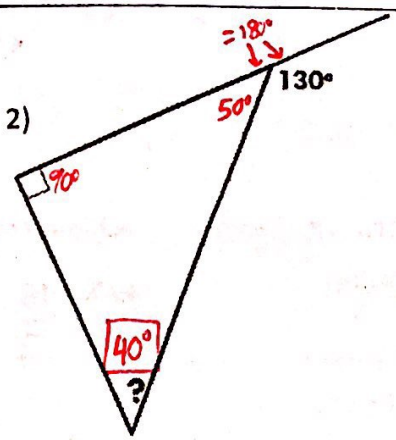
Interior Angles of Triangles: The sum is always 180°!

Examples:

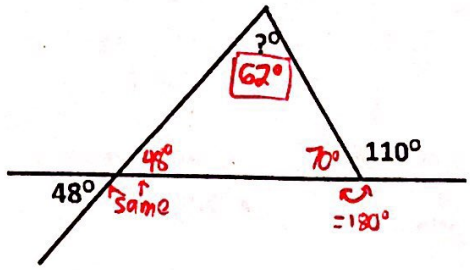
1)



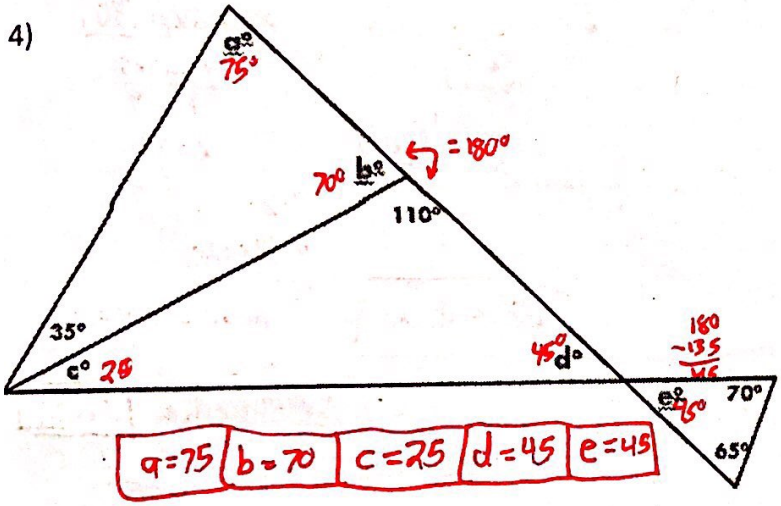
2)



3)

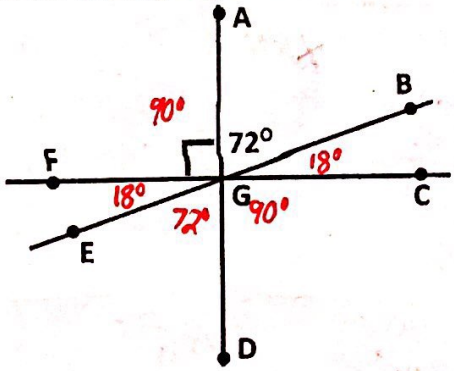


4)



a=75 | b=70 | c=25 | d=45 | e=45

5) Fill in the missing angle measures.



For 6-12, use the diagram from #5.

6) $\angle AGE$ is:

A) Acute
B) Right
C) Obtuse
D) Straight

7) $\angle FGE$ and $\angle BGC$ are:

A) Vertical
B) Complementary
C) Supplementary
D) None of the above

8) $\angle AGB$ and $\angle BGC$ are:

A) Vertical
B) Complementary
C) Supplementary
D) None of the above

9) $\angle DGC$ and $\angle DGE$ are:

A) Vertical
B) Complementary
C) Supplementary
D) None of the above

10) $\angle DGE$ and $\angle DGB$ are:

A) Vertical
B) Complementary
C) Supplementary
D) None of the above

11) $\angle AGE$ and $\angle BGD$ are:

A) Vertical
B) Complementary
C) Supplementary
D) None of the above

12) $\angle FGE$ and $\angle AGB$ are:

A) Vertical
B) Complementary 18+72=90!
C) Supplementary
D) None of the above

13) Identify a pair of complementary angles from the diagram in #5 that was not already used in #6-12.

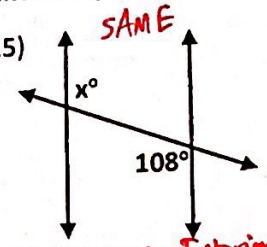
∠FGE + ∠EGD or ∠EGD + ∠BGC

14) Identify a pair of supplementary angles from the diagram in #5 that was not already used in #6-12.

∠AGF + ∠AGC + many more possibilities
∠FGB + ∠BGC

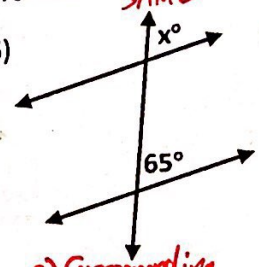
For 15-19, a) Identify which type of angle pair is marked, and b) Find the missing angle measure. You may assume the lines are parallel in each problem.

15) SAME



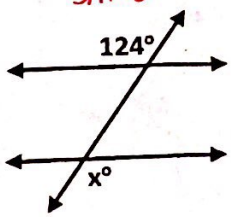
a) Alternate Interior
b) $x=108$

16) SAME



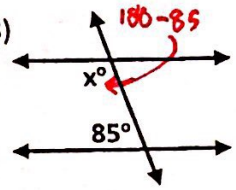
a) Corresponding
b) $x=65$

17) SAME



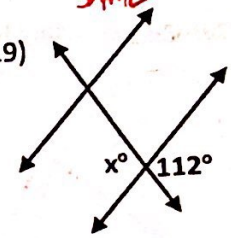
a) Alternate Exterior
b) $x=124$

18) SUPPLEMENTARY



a) Same-side Interior
b) $x=95$

19) SAME

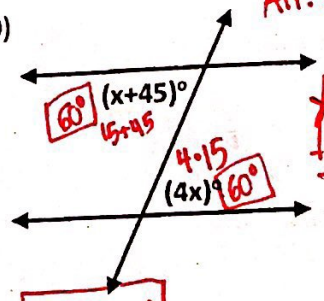


a) Vertical
b) $x=112$

Algebra Section

For each problem, set up an equation and solve for the variable. Then plug the variable back in to find each angle measure. You may assume the lines are parallel in each problem.

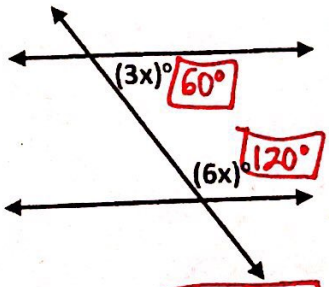
20) Alt. Int. ∠s: Same



$x+45=4x$
$-x \quad -x$
$\frac{45}{3}=\frac{3x}{3}$
$15=x$

Both 60°

21) Same side Interior ∠s: supplementary

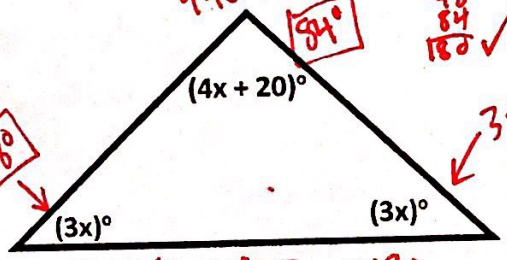


$3x+6x=180$
$\frac{9x}{9}=\frac{180}{9}$
$x=20$
$3\cdot20=60$
$6\cdot20=120$

60° and 120°

Check: $60+120=180$ ✓

22)



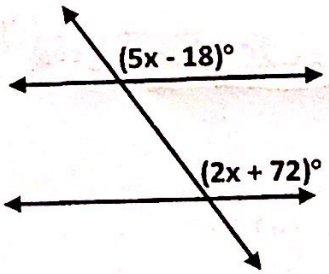
$64+20$
$4\cdot16+20$
94°
48°
$3\cdot16=48°$

Check
48
48
84
180 ✓

$3x+(4x+20)+3x=180$
$10x+20=180$
$-20 \quad -20$
$10x=160$
$x=16$

48°, 48°, 84°

23) Corresponding ∠s: Same



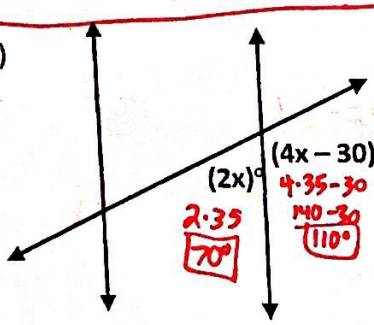
$5x-18=2x+72$
$-2x \quad -2x$
$3x-18=72$
$+18 \quad +18$
$\frac{3x}{3}=\frac{90}{3}$
$x=30$

Top: $5\cdot30-18$
$150-18$
132°

Bottom: $2\cdot30+72$
$60+72$
132°

Both 132°

24) Supplementary



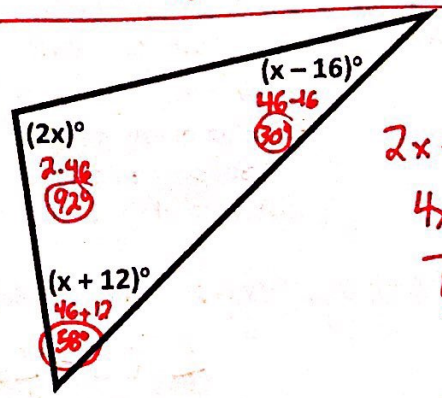
$2\cdot35$
70°
$4\cdot35-30$
$140-30$
110°

$2x+4x-30=180$
$6x-30=180$
$+30 \quad +30$
$\frac{6x}{6}=\frac{210}{6}$
$x=35$

70° and 110°

check
$70+110$ ✓
$=180$

25)



$46-16$
30
$2\cdot46$
92°
$46+12$
58°

$2x+(x-16)+(x+12)=180$
$4x-4=180$
$+4 \quad +4$
$\frac{4x}{4}=\frac{184}{4}$
$x=46$

92°, 58°, 30°

Check: $92+58+30=180$ ✓