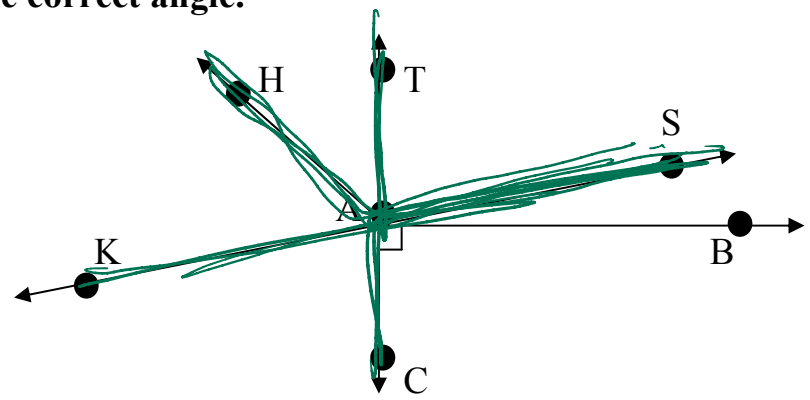
Special Types of Angles

A. Fill in the correct angle.



1) ∠ HAK and ∠HAS are supplementary angles.

2) ∠ SAT and ∠SAC are supplementary angles.

3) ∠ BAS and ∠TAS are complementary angles.

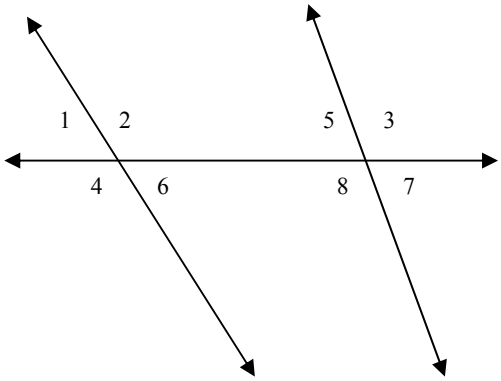
4) ∠KAT and ∠ SAC are vertical angles.

5) ∠KAC and ∠ SAT are vertical angles.

6) ∠SAB ∠SAC and ∠ SAH are adjacent angles. ∠HAK ∠HAC

7) ∠ 1 corresponds to ∠5

8) ∠ 7 corresponds to ∠6



9) ∠ 1 and ∠6 are vertical angles.

10) ∠ 2 and ∠3 are corresponding angles.

11) ∠ 2 and ∠8 are alternate interior angles.

12) ∠5 and ∠ 6 are alternate interior angles.

13) ∠3 and ∠ 8 are vertical angles.

14) ∠5 or ∠7 and ∠ 8 are adjacent angles.

Special Types of Angles

B. Fill in the correct angle measurement.

15) What is the supplement of a 47° angle? 133°

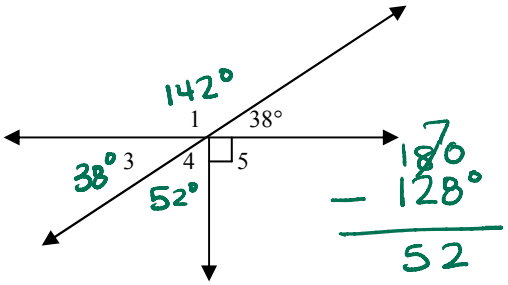
16) What is the complement of a 54° angle? 36°

17) m∠ 1 = 142°

18) m∠ 3 = 38°

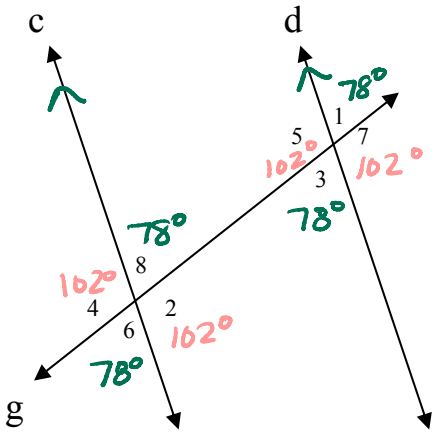
19) m∠ 4 = 52°

20) m∠ 5 = 90°



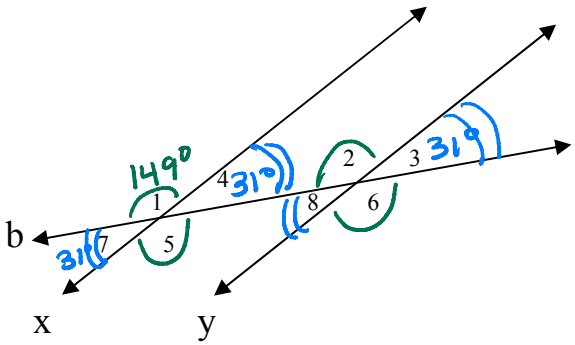
Lines **c** and **d** are parallel. The m∠ 1 = 78°

21) a) m∠ 2 = 102°
b) m∠ 3 = 78°
c) m∠ 4 = 102°
d) m∠ 5 = 102°
e) m∠ 6 = 78°
f) m∠ 7 = 102°
g) m∠ 8 = 78°



Lines **x** and **y** are parallel. The m∠ 1 = 149°

22) a) m∠ 2 = 149°
b) m∠ 3 = 31°
c) m∠ 4 = 31°
d) m∠ 5 = 149°
e) m∠ 6 = 149°
f) m∠ 7 = 31°
g) m∠ 8 = 31°



Special Types of Angles

C. Use your algebra skills to find the angle measurements.

23) a) Find the value of "x".

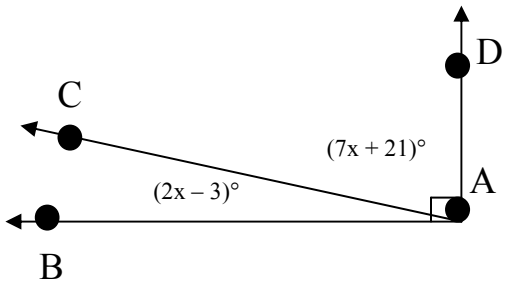
$2x-3+7x+21=90°$

$9x+18=90°$

$-18 \quad -18$

$9x=72°$

$\boxed{x=8}$



b) m∠ DAC = $77°$

$7(8)+21$

$56+21=77°$

c) m∠ BAC = $13°$

$2(8)-3$

$16-3=13°$

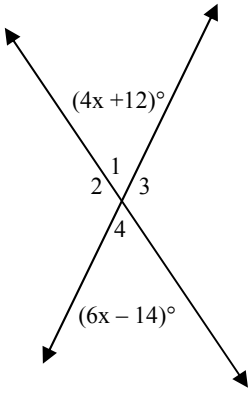
24) a) Find the value of "x".

$4x+12=6x-14$

$12+14=6x-4x$

$\frac{26}{2}=\frac{2x}{2}$

$\boxed{x=13}$



b) m∠ 1 = $64°$

$4(13)+12$

$52+12=64°$

c) m∠ 2 = $116°$

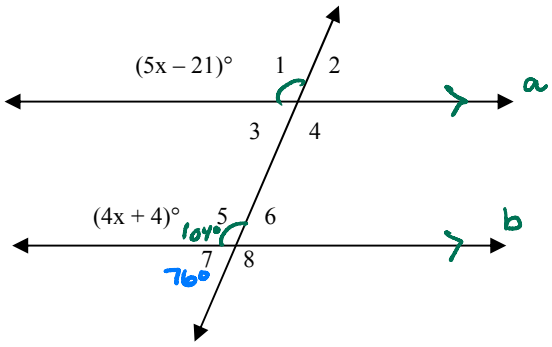
Lines **a** and **b** are parallel.

25) a) Find the value of "x".

$5x-21=4x+4$

$5x-4x=21+4$

$x=25$



b) m∠ 1 = $104°$

$5(25)-21$

$125-21$

104

c) m∠ 7 = $76°$