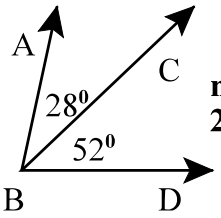
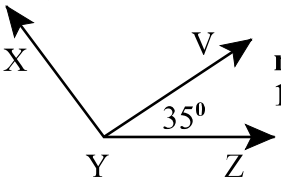
Angles Equations 2 **KEY**
Geometry

1) Find m∠ABD?



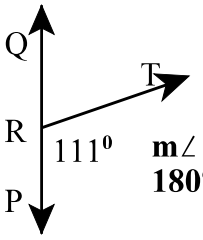
m∠ABD =
28° + 52° = 80°

2) m∠XYZ=118⁰. Find m∠XYV.



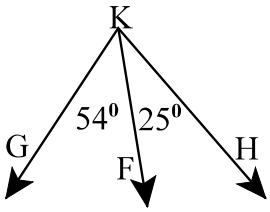
m∠XYV =
118° – 35° = 83°

3) Find m∠QRT.



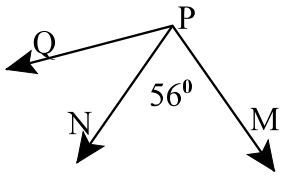
m∠ = QRT
180° – 111° = 69°

4) Find m∠GKH.



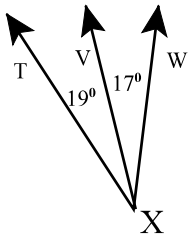
m∠GKH =
54° + 25° = 79°

5) m∠QPM=101⁰. Find m∠QPN.



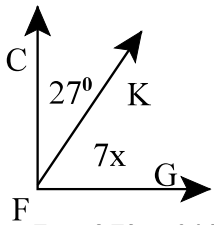
m∠QPN =
101° – 56° = 45°

6) Find m∠TXW.



m∠TXW =
19° + 17° = 36°

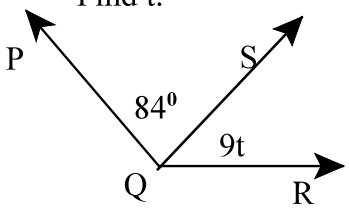
7) ∠CFG is a right angle. Find x.



7x +27° = 90°
– 27° – 27°

7x = 63°
7 7
x = 9°

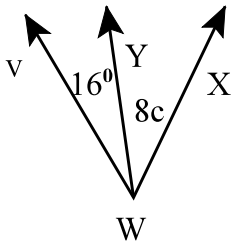
8) ∠PQR measures 138⁰. Find t.



9t +84° = 138°
– 84° – 84°

9t = 54°
9 9
t = 6°

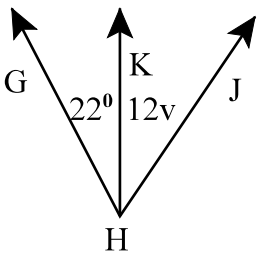
9) m∠VWX = 48º. Find c.



8c +16° = 48°
– 16° – 16°

8c = 32°
8 8
c = 4°

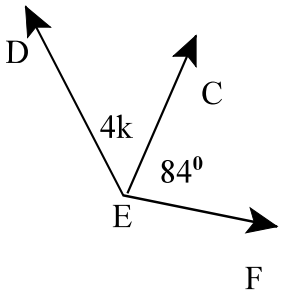
10) m∠GHJ=58⁰. Find v.



12v +22° = 58°
– 22° – 22°

12v = 36°
12 12
v = 3°

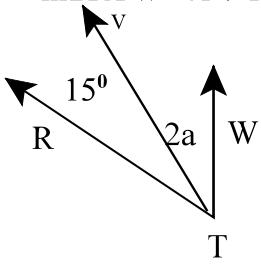
11) m∠DEF=140⁰. Find k



4k +84° = 140°
– 84° – 84°

4k = 56°
4 4
k = 14°

12) m∠RTW=41⁰. Find a.



2a +15° = 41°
– 15° – 15°

2a = 26°
2 2
a= 13°

13) m∠T is 40° less than the m∠V. ∠T and ∠V are supplementary. Find the measures of the two angles.

m∠T = x – 40°
= (110° – 40°)
m∠T = 70°
m∠V = x = 110°

x – 40° + x = 180°
2x – 40° = 180°
+ 40° + 40°

$\frac{2x = 220°}{2 \quad 2}$

x = 110°

14) m∠3 is 18° more than twice the m∠4 . ∠3 and ∠4 are complementary. Find the measures of the two angles.

2x + 18 + x = 90°
3x + 18° = 90°
– 18° – 18°

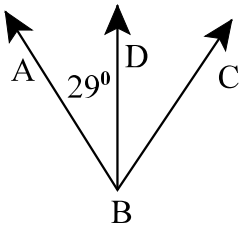
m∠3 = 2x + 18°
= 2(24°) + 18°
m∠3 = 66°
m∠4 = x = 24°

$\frac{3x = 72°}{3 \quad 3}$

x = 24°

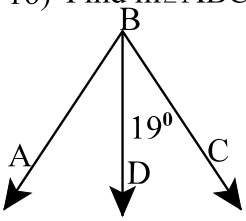
In each figure below, $\overline{BD}$ is the angle bisector of ∠ABC.

15) Find m∠ABC.



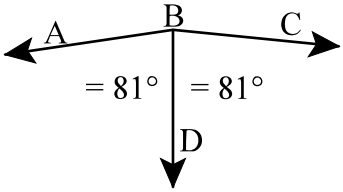
m∠ABC = 29° + 29° = 58°

16) Find m∠ABC.



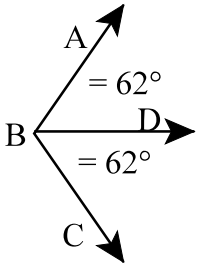
m∠ABC = 19° + 19° = 38°

17) m∠ABC=162⁰. Find m∠ABD and m∠CBD.



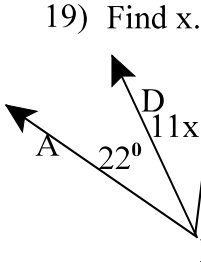
162°÷ 2 = 81°

18) m∠ABC = 124⁰. Find m∠ABD and m∠CBD.



124°÷ 2 = 62°

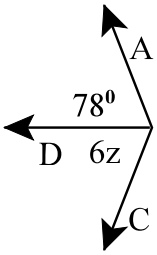
19) Find x.



$\frac{11x = 22°}{11 \quad 11}$

x = 2°

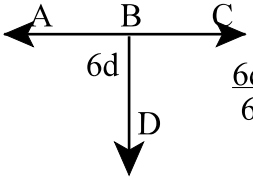
20) Find z



$\frac{6z = 78°}{6 \quad 6}$

t = 13°

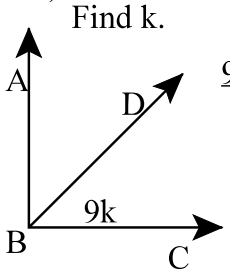
21) ∠ABC is a straight angle. Find d.



$\frac{6d = 90°}{6 \quad 6}$

d = 15°

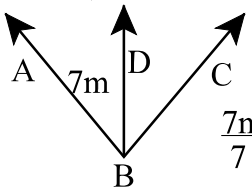
22) ∠ABC is a right angle. Find k.



$\frac{9k = 45°}{9 \quad 9}$

k = 5°

23) m∠ABC=84⁰. Find m.

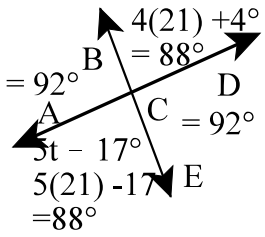


$\frac{7m = 84°}{7 \quad 7}$

m = 12°

Find the measures of all angles.

24)



$5t - 17 = 4t + 4$

$-4t \quad -4t$

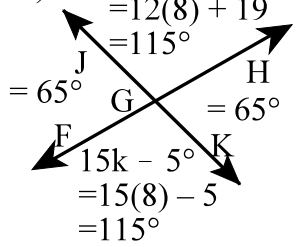
$t - 17 = 4$

$+17 \quad +17$

$t = 21$

x = 4°

25)



$12k + 19° = 15k - 5°$

$-12k \quad -12k$

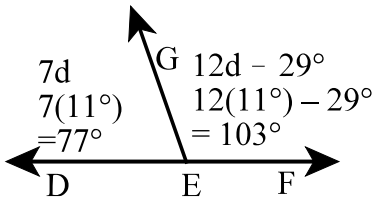
$19 = 3k - 5$

$+5 \quad +5$

$\frac{24}{3} = \frac{3k}{3}$

8° = k

26)



$7d + 12d - 29 = 180°$

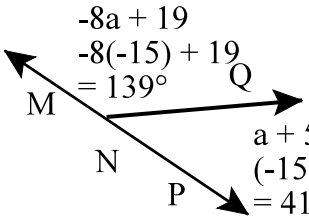
$19d - 29 = 180°$

$+29 \quad +29$

$\frac{19d}{19} = \frac{209°}{19}$

x = 11°

27)



$-8a + 19 + a + 56 = 180°$

$-7a + 75 = 180°$

$-75 \quad -75$

$\frac{-7a}{-7} = \frac{105°}{-7}$

x = -15°