Ms. Mougharbel Name_____

Geometry - Homework 6

Date_____ Period____

Points A, B, C, and D are collinear and positioned in that order. Find the length indicated.

1) $CD = 11x - 42$, $AD = 35x - 23$, $AB = 10x + 13$, and $BC = 76$. Find AB.

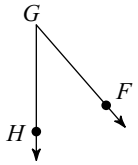
2) $BC = 508 + 6x$, $AC = 4x + 442$, $BD = 106$, and $AD = 4x + 496$. Find AC.

3) Find AD if $BC = 15x - 204$, $BD = 166$, $AC = 18x - 209$, and $AD = 13x - 29$.

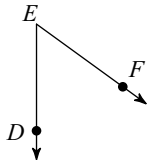
4) Find CD if $AB = 100$, $BC = 2x - 99$, $AD = 10x - 586$, and $CD = 10x - 757$.

Name the vertex and sides of each angle.

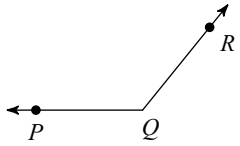
5)



6)



7)



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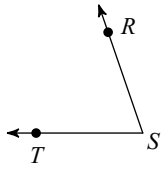

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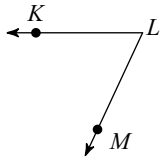
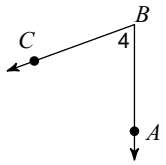
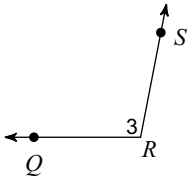


Name each angle in four ways.

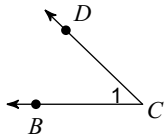
10)



11)



12)



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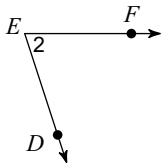
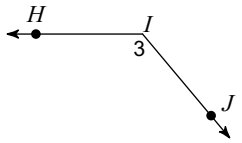
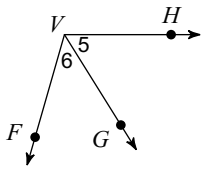


14)

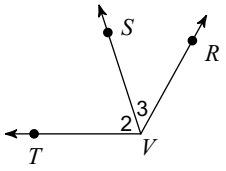


Name all the angles that have *V* as a vertex.

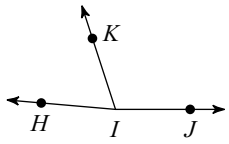
15)



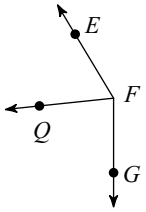
16)



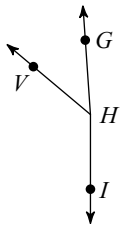
17) $m\angle KIJ = 108°$ and $m\angle HIK = 67°$. Find $m\angle HIJ$.



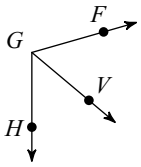
18) Find $m\angle QFE$ if $m\angle GFE = 149°$ and $m\angle GFQ = 84°$.



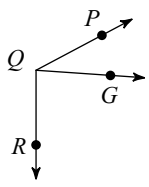
19) $m\angle IHV = 130°$ and $m\angle IHG = 176°$. Find $m\angle VHG$.



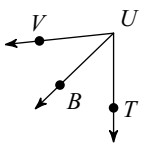
20) Find $m\angle FGV$ if $m\angle FGH = 106°$ and $m\angle VGH = 50°$.



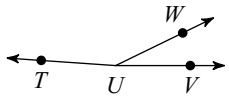
21) Find $m\angle PQG$ if $m\angle GQR = 86°$ and $m\angle PQR = 118°$.



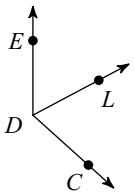
22) Find x if $m\angle BUV = 37x + 1$, $m\angle TUV = 84°$, and $m\angle TUB = 46x$.



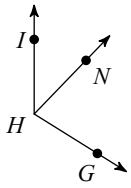
23) Find x if $m\angle WUV = 12x + 2$, $m\angle TUW = 76x - 2$, and $m\angle TUV = 176°$.



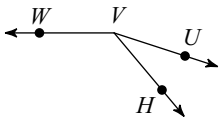
24) Find x if $m\angle EDL = 62°$, $m\angle EDC = 32x + 4$, and $m\angle LDC = 18x - 2$.



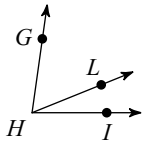
25) Find x if $m\angle NHG = 7x + 15$, $m\angle IHN = 4x + 8$, and $m\angle IHG = 122°$.



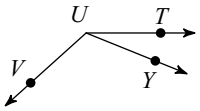
26) Find x if $m\angle UVW = 17x - 8$, $m\angle HVW = 12x + 10$, and $m\angle UVH = 32°$.



27) Find $m\angle LHI$ if $m\angle GHI = 11x - 6$, $m\angle LHI = 3x - 2$, and $m\angle GHL = 60°$.

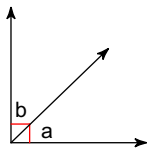


28) Find $m\angle TUV$ if $m\angle YUV = 116°$, $m\angle TUV = 33x + 6$, and $m\angle TUY = 5x + 2$.

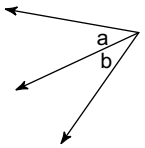


Name the relationship: complementary, linear pair, vertical, or adjacent.

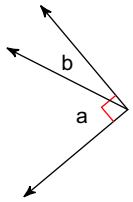
29)



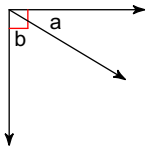
30)



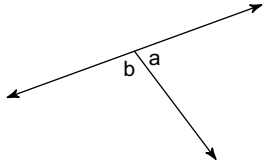
31)



32)

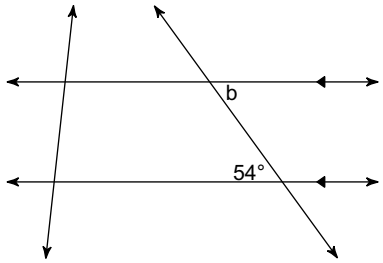


33)

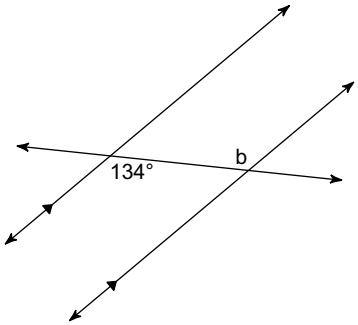


Find the measure of angle b.

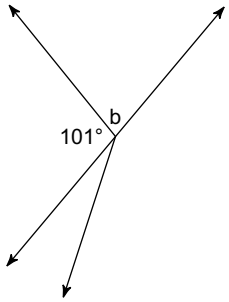
34)



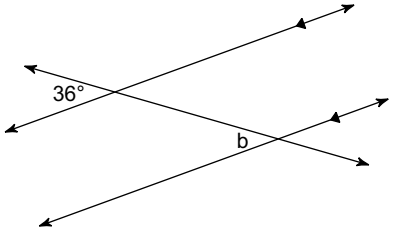
35)



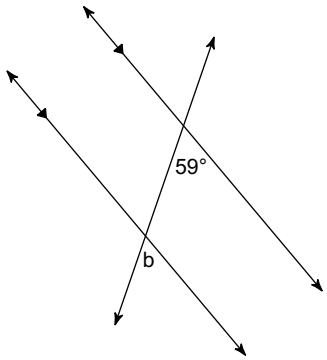
36)



37)

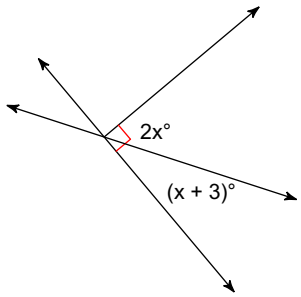


38)

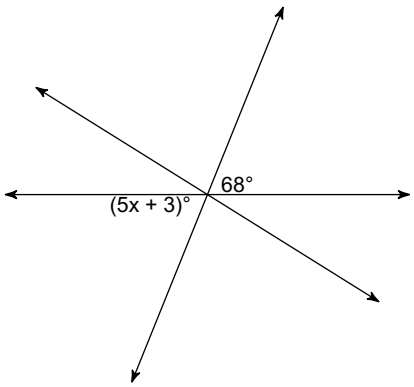


Find the value of x.

39)



40)



Answers to Geometry - Homework 6

1) 63
3) 218
5) G, $\overrightarrow{GF}$ and $\overrightarrow{GH}$
7) Q, $\overrightarrow{QP}$ and $\overrightarrow{QR}$
9) L, $\overrightarrow{LM}$ and $\overrightarrow{LK}$
11) $\angle R$, $\angle 3$, $\angle QRS$, $\angle SRQ$
13) $\angle E$, $\angle 2$, $\angle FED$, $\angle DEF$
15) $\angle 5$, $\angle 6$, $\angle HVF$
17) 175°
19) 46°
21) 32°
23) 2
25) 9
27) 22°
29) complementary
31) complementary
33) linear pair
35) 134°
37) 36°
39) 29