

The Angle Addition Postulate

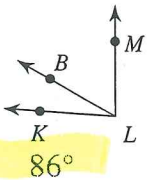
Name _____

Date _____

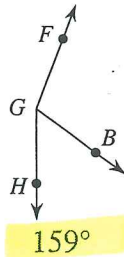
Period _____

Answer Key!

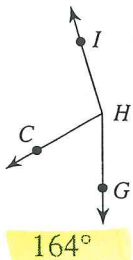
- 1) Find $m\angle KLM$ if $m\angle KLB = 26^\circ$ and $m\angle BLM = 60^\circ$.



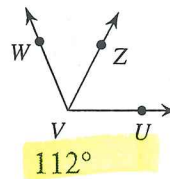
- 2) Find $m\angle FGH$ if $m\angle FGB = 105^\circ$ and $m\angle BGH = 54^\circ$.



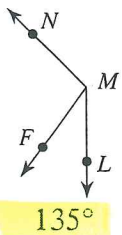
- 3) $m\angle GHC = 60^\circ$ and $m\angle CHI = 104^\circ$. Find $m\angle GHI$.



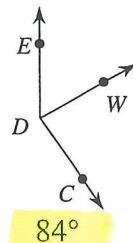
- 4) Find $m\angle WVU$ if $m\angle ZVU = 62^\circ$ and $m\angle WVZ = 50^\circ$.



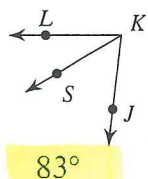
- 5) $m\angle FMN = 99^\circ$ and $m\angle LMF = 36^\circ$. Find $m\angle LMN$.



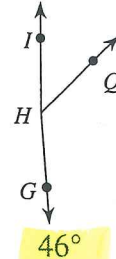
- 6) Find $m\angle WDC$ if $m\angle EDC = 145^\circ$ and $m\angle EDW = 61^\circ$.



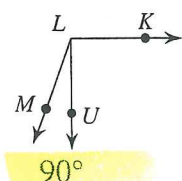
- 7) Find $m\angle JKL$ if $m\angle SKL = 31^\circ$ and $m\angle JKS = 52^\circ$.



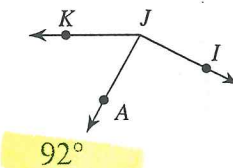
- 8) Find $m\angle IHQ$ if $m\angle IHG = 176^\circ$ and $m\angle QHG = 130^\circ$.



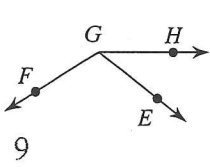
- 9) Find $m\angle KLU$ if $m\angle ULM = 20^\circ$ and $m\angle KLM = 110^\circ$.



- 10) Find $m\angle IJA$ if $m\angle AJK = 61^\circ$ and $m\angle IJK = 153^\circ$.



- 11) $m\angle HGF = 16x + 4$, $m\angle EGF = 110^\circ$,
and $m\angle HGE = 3x + 11$. Find x .



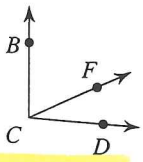
$$16x + 4 = 110 + 3x + 11$$

$$16x + 4 = 3x + 121$$

$$13x = 117$$

$$x = 9$$

- 13) $m\angle FCD = x + 41$, $m\angle BCF = x + 78$,
and $m\angle BCD = 95^\circ$. Find x .



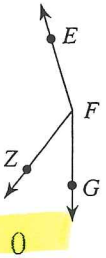
$$95 = x + 41 + x + 78$$

$$95 = 2x + 119$$

$$-24 = 2x$$

$$-12 = x$$

- 15) $m\angle GFZ = 38^\circ$, $m\angle ZFE = 2x + 125$,
and $m\angle GFE = x + 163$. Find x .

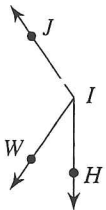


$$x + 163 = 38 + 2x + 125$$

$$x + 163 = 2x + 163$$

$$0 = x$$

- 17) Find $m\angle HIW$ if $m\angle WIJ = 10x$,
 $m\angle HIJ = 145^\circ$, and $m\angle HIW = 2x + 13$.



$$145 = 10x + 2x + 13$$

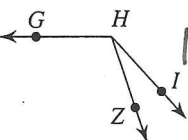
$$145 = 12x + 13$$

$$132 = 12x$$

$$11 = x$$

$$2(11) + 13 = 35$$

- 19) $m\angle ZHG = 11x - 1$, $m\angle IHZ = 24^\circ$,
and $m\angle IHG = 12x + 13$. Find $m\angle IHG$.



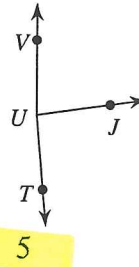
$$12x + 13 = 11x - 1 + 24$$

$$x + 13 = 23$$

$$x = 10$$

$$12(10) + 13 = 133$$

- 12) $m\angle VUT = 175^\circ$, $m\angle VUJ = 17x - 3$,
and $m\angle JUT = 17x + 8$. Find x .



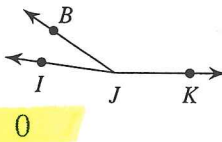
$$175 = 17x - 3 + 17x + 8$$

$$175 = 34x + 5$$

$$170 = 34x$$

$$\frac{170}{34} = x = 5$$

- 14) Find x if $m\angle BJK = 146 + 2x$,
 $m\angle IJK = 172^\circ$, and $m\angle IJB = 2x + 26$.



$$172 = 146 + 2x + 2x + 26$$

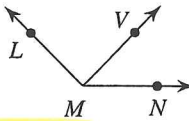
$$172 = 4x + 172$$

$$-172 = 4x$$

$$0 = 4x$$

$$x = 0$$

- 16) Find x if $m\angle LMN = 135^\circ$,
 $m\angle LMV = -1 + 45x$, and $m\angle VMN = 23x$.

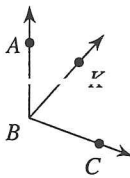


$$135 = -1 + 45x + 23x$$

$$136 = 68x$$

$$\frac{136}{68} = x = 2$$

- 18) $m\angle ABC = 17x + 8$, $m\angle ABK = 42^\circ$,
and $m\angle KBC = 12x - 4$. Find $m\angle ABC$.



$$17x + 8 = 42 + 12x - 4$$

$$17x + 8 = 12x + 38$$

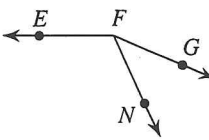
$$17x = 12x + 30$$

$$5x = 30$$

$$x = 6$$

$$17(6) + 8 = 110$$

- 20) $m\angle GFN = 4x + 10$, $m\angle NFE = 14x + 3$,
and $m\angle GFE = 157^\circ$. Find $m\angle NFE$.



$$157 = 4x + 10 + 14x + 3$$

$$157 = 18x + 13$$

$$144 = 18x$$

$$8 = x$$

$$14(8) + 3 = 115$$