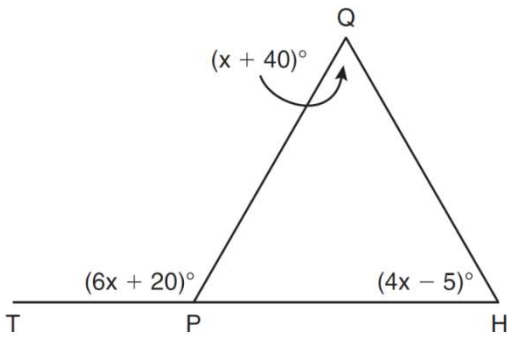
Name _____ Date _____
Mr. Schlansky Geometry

Triangles/Parallel Lines Review Sheet

1. In ΔABC, $m\angle A = 3x + 1$, $m\angle B = 4x - 17$, and $m\angle C = 5x - 20$. Which type of triangle is ΔABC?
1) right
2) scalene
3) isosceles
4) equilateral

2. Triangle *PQR* has angles that are in the ratio 2:3:5. Which type of triangle is $\triangle PQR$?
1) acute
2) isosceles
3) obtuse
4) right

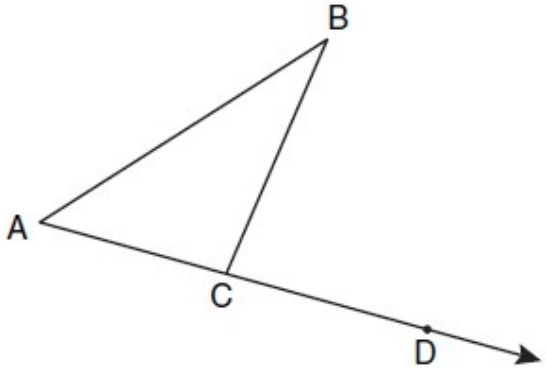
3. In the diagram below of $\triangle HQP$, side $\overline{HP}$ is extended through *P* to *T*, $m\angle QPT = 6x + 20$, $m\angle HQP = x + 40$, and $m\angle PHQ = 4x - 5$. Find $m\angle QPT$.



(Not drawn to scale)

4. In the diagram below, $\triangle ABC$ is shown with $\overline{AC}$ extended through point *D*.

If $m\angle BCD = 6x + 2$, $m\angle BAC = 3x + 15$, and $m\angle ABC = 2x - 1$, what is the value of *x*?



5. In triangle SPY, $m\angle S = 35^\circ$ and $m\angle Y = 70^\circ$. What is the largest side of the triangle? What is the shortest side of the triangle?

6. In ΔABC, $m\angle A = 45°$ and $m\angle B = 60°$. What is the largest side of ΔABC ? What is the smallest side of ΔABC?

7. Which set of numbers represents the lengths of the sides of a triangle?

1) $\{5, 18, 13\}$
2) $\{6, 17, 22\}$
3) $\{16, 24, 7\}$
4) $\{26, 8, 15\}$

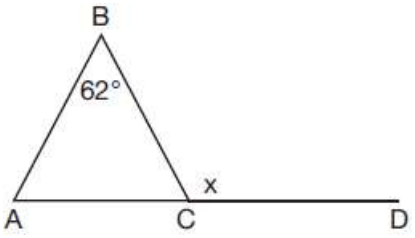
8. Which of the following cannot make up the three sides of a triangle?

1) {3,9,7}
2) {2,7,5}
3) {8,12,15}
4) {9,3,7}

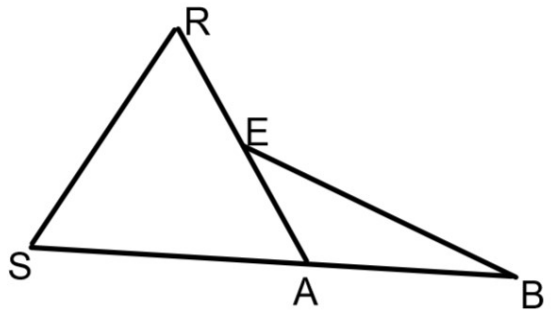
9. Given $\triangle ABC$ with $m\angle B = 62^\circ$ and side $\overline{AC}$ extended to D, as shown below.

Which value of x makes $\overline{AB} \cong \overline{CB}$?

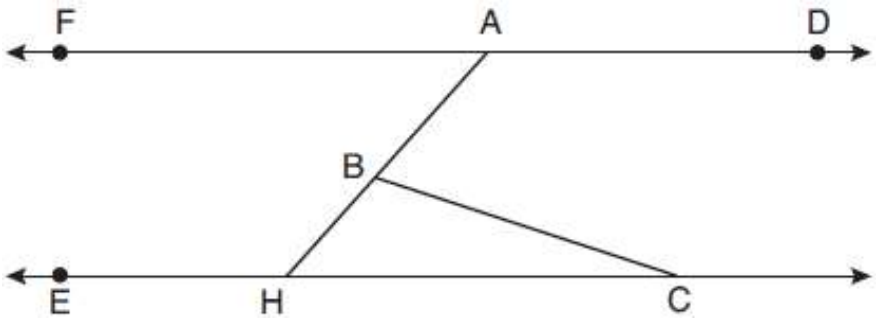
1) 59°
2) 62°
3) 118°
4) 121°



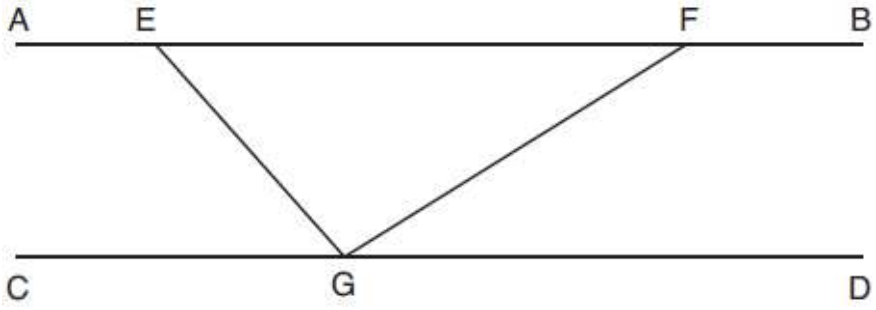
10. In the diagram below, $\overline{SR} \cong \overline{RA}$, $m\angle SRA = 40$, and $m\angle ABE = 30$. Find $m\angle BEA$.



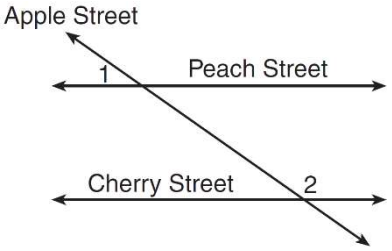
11. In the diagram below, $\overline{FAD} \parallel \overline{EHC}$, and $\overline{ABH}$ and $\overline{BC}$ are drawn. If $m\angle FAB = 48°$ and $m\angle ECB = 18°$, what is $m\angle ABC$?



12. In the diagram below, $\overline{AEFB} \parallel \overline{CGD}$, and $\overline{GE}$ and $\overline{GF}$ are drawn. If $m\angle EFG = 32°$ and $m\angle CGE = 43$, what is $m\angle EGF$?



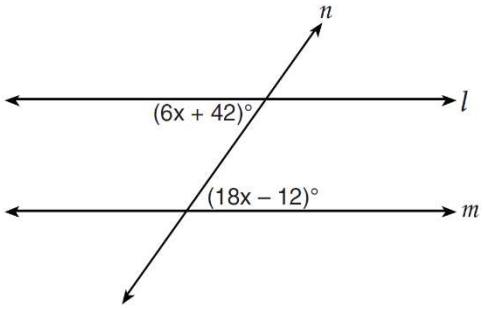
13. Peach Street and Cherry Street are parallel. Apple Street intersects them, as shown in the diagram below.



If $m\angle 1 = 2x + 36$ and $m\angle 2 = 7x - 9$, what is $m\angle 1$?

1) 9
2) 17
3) 54
4) 70

14. Line *n* intersects lines *l* and *m*, forming the angles shown in the diagram below.



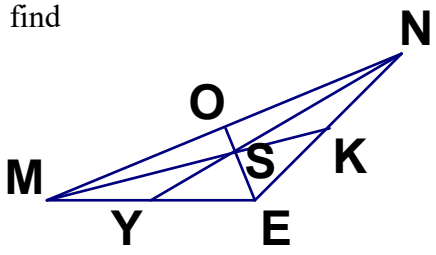
Which value of *x* would prove $l \parallel m$?

1) 2.5
2) 4.5
3) 6.25
4) 8.75

15. In the given triangle, all three medians are drawn in. If $\overline{MS} = 12$, find

a) $\overline{SK}$

b) $\overline{MK}$



16. In the given triangle, all three medians are drawn in. If $\overline{OS} = 9$, find

a) $\overline{ES}$

b) $\overline{OE}$