SATPREP
Assignment : *Line and Angle*

Easy

$$\underset{A}{\vdash}\overset{8}{\rule{2cm}{0pt}}\underset{B}{\vdash}\overset{x}{\rule{1cm}{0pt}}\underset{C}{\vdash}\overset{5}{\rule{1.5cm}{0pt}}\vdash$$
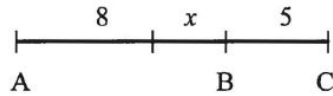
1. In the diagram above, line segment $\overline{AC}$ has a length of 17. What is the length of the line segment between the midpoint of segment $\overline{AB}$ and endpoint C?
   a) 11
   b) 9
   c) 7
   d) 5
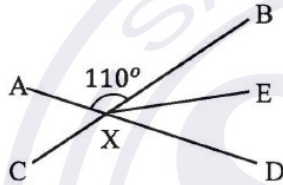
Note: Figure not drawn to scale.

2. Two line segments $\overline{AD}$ and $\overline{BC}$ intersect at point X as shown in the figure above. If $\overline{XE}$ bisects angle $\angle BXD$, what is $m\angle EXD$?
   a) 30
   b) 35
   c) 55
   d) 60

3. A line contains Points A, B, and C from left to the right. If the length of line segment BC is twice the length of AB, and the length of line segment AC is 60, what is the length of line segment BC?
   a) 10
   b) 20
   c) 30
   d) 40
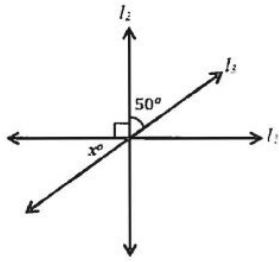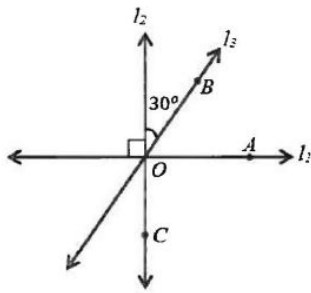
4. In the figure above, l_1 and l_2 are perpendicular to each other and l_3 intersects l_1 and l_2. What is the value of degree x?

a) 50
b) 60
c) 40
d) 30

5. According to figure above, the intersection of $\overrightarrow{AB}$ and $\overrightarrow{CB}$ is

a) $\overline{BC}$
b) $\overline{BA}$
c) $\overline{AC}$
d) $\overrightarrow{AC}$
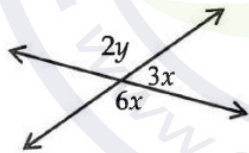
6. In the figure above, what is the value of $x + y$?
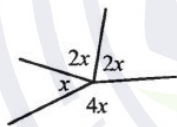
a) 60
b) 75
c) 80
d) 100

7. In the figure above, lines l_1, l_2 and l_3 intersect at point O and l_1 is perpendicular to l_2. What is the value of $m\angle BOC$?
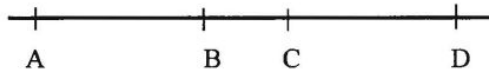
    a) 75
    b) 90
    c) 120
    d) 150

8. A bicycle wheel makes a full turn every 2 seconds. How many degrees does a point on this wheel turn in 10 seconds?

    a) 36°
    b) 180°
    c) 360°
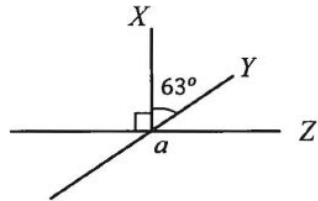   d) 1800°

9. In the figure above, four line segments intercept at a point. How many degrees is x?

10. In the figure above, AC = 9, AB = 2BC, and AB = CD. What does AD equal?

   a) 12
    b) 14
    c) 15
    d) 16

14. What is the value of *a* in the figure above?

15. Points A, B, C, D, E lie on a line from left to right. The length of AC is 4, the length of BE is 6 and the length of BC is 3. What is the length of AE?
    a) 10
    b) 9
    c) 8
    d) 7

16. Five points A, B, C, D, and E, lie on a line. Point B is the midpoint of AC and point D is the midpoint of BC. If AC is 12 and DE is 2, what is the sum of the possible lengths of segment AE?
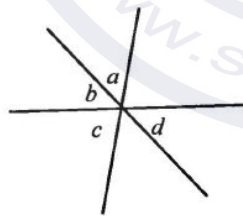
17. In the figure above, three line segments intersect at one point here $a° = d°$ and $c° = 2a°$. What is the value of $b°$?
    a) 30°
    b) 40°
    c) 45°
    d) 50°