First Day
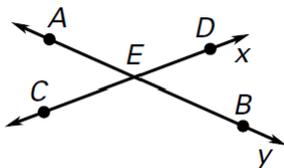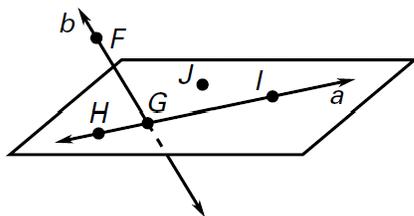
Multiple Choice
Identify the choice that best completes the statement or answers the question.

_____ 1. Which statement about the figure is true?
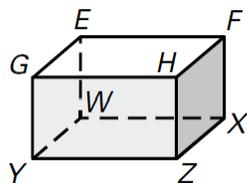

    a.   Lines *x* and *y* intersect at point *A*.
    b.   Points *A, B,* and *C* are collinear.
    c. $\overrightarrow{EC}$ and $\overrightarrow{ED}$ are opposite rays.
    d.   Another name for $\overline{AE}$ is $\overline{AB}$.
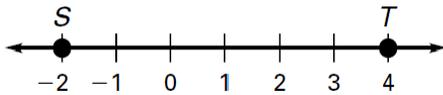
_____ 2. Name three points that are collinear.

    a.   *G, H,* and *I*   c.   *F, G,* and *I*
    b.   *H, G,* and *J*   d.   *G, J,* and *I*

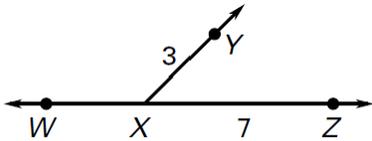_____ 3. What is the intersection of plane *HGY* and plane *HFX*?

    a. $\overrightarrow{HZ}$
    b. $\overleftrightarrow{HZ}$
    c.   Point *H*
    d.   Plane *EFH*

_____ 4. What is the length of $\overline{ST}$?

   a. 2   b. 4   c. −2   d. 6

_____ 5. If $\overline{WX} \cong \overline{XY}$, what is the length of $\overline{WZ}$?

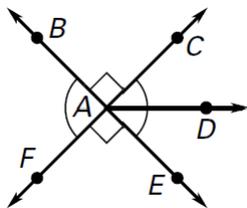   a. 7   b. 10   c. 3   d. 4

_____ 6. The endpoints of $\overline{CD}$ are $C(6, 1)$ and $D(-4, -1)$. Find the midpoint M of $\overline{CD}$.
   a. $M(10, 2)$ c. $M(2, 0)$
   b. $M(-10, -2)$ d. $M(1, 0)$

_____ 7. $\overline{JK}$ has a length of 4.5 units. If $\overline{LM}$ has endpoints $L(3, 1)$ and $M(-1, 4)$, how much longer than $\overline{JK}$ is $\overline{LM}$?
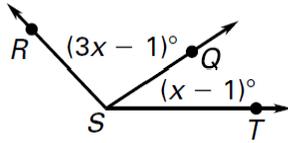   a. 0.5 unit   c. 2.5 units
   b. 2 units   d. $\overline{JK}$ is longer.

_____ 8. Name the acute angles in the given figure.

   a. $\angle CAD$ and $\angle DAE$
   b. $\angle BAC$ and $\angle FAE$
   c. $\angle BAF$ and $\angle CAE$
   d. $\angle BAD$ and $\angle FAD$

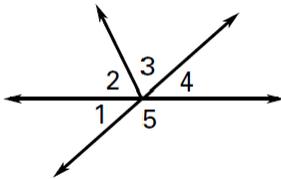_____ 9. If the measure of ∠RST is 134°, find the measure of ∠QST.

   a.   67°   b.   33°   c.   34°   d.   98°

_____ 10. $m\angle A$ is 42° greater than $m\angle B$. If ∠A and ∠B are supplementary, find $m\angle A$ and $m\angle B$.
   a. $m\angle A = 111°$, $m\angle B = 69°$
   b. $m\angle A = 42°$, $m\angle B = 48°$
   c. $m\angle A = 42°$, $m\angle B = 138°$
   d. $m\angle A = 66°$, $m\angle B = 24°$

_____ 11. Name a pair of vertical angles in the figure shown.

   a.   ∠2 and ∠4   c.   ∠3 and ∠5
   b.   ∠1 and ∠4   d.   There are none.

_____ 12. Which describes the following polygon?
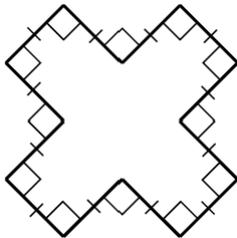
   a.   equilateral
   b.   equiangular
   c.   regular
   d.   none of these

_____ 13. Which of the following is a convex polygon?

   a.   c.

   b.   d.

3

_____ 14. Point M is the midpoint of $\overline{AB}$. If $AM = 12x + 8$ and $MB = 10x + 15$, find the length of $\overline{AB}$.

   a. 3.5   c. 50

   b. 4   d. 100

_____ 15. Find CD.

   a. 5

   b. 28

   c. 56

   d. 96

_____ 16. Find the length of diagonal BC of $ABCD$ to the nearest hundredth.

   a. 2.83 units

   b. 5.66 units

   c. 6.32 units

   d. 7.21 units

Numeric Response

17. Find the area, in square units, of a triangle with vertices $X(-7, 2)$, $Y(8, 2)$, and $Z(6, 7)$.

Short Answer

18. A swimmer stands somewhere in a circular pool. The distance to the farthest side (through the center of the pool) is 3 times the distance to the nearest side. The circumference of the pool is 100 feet.

a. How close is the swimmer to the nearest side?

b. How far must the swimmer swim to get to the center?

Other

19. You are a surveyor. You take your first measurement facing due north. You turn to the right to take your second measurement and then right again, 4 times as far, to take your third measurement. You are now facing due west.

a. How many degrees did you turn to take your second measurement?
b. How many degrees should you have turned after your second measurement if you wanted to take your third measurement facing south?
c. How many degrees must you turn to the left in order to take a fourth measurement in the opposite direction of your second measurement?

First Day
Answer Section

MULTIPLE CHOICE

  1. ANS: C   PTS: 1   DIF: Level B   NAT: NT.CCSS.MTH.10.9-12.G.CO.1
     TOP: Standardized Test, Chapter 1   MSC: DOK 1
  2. ANS: A   PTS: 1   DIF: Level B   NAT: NT.CCSS.MTH.10.9-12.G.CO.1
     TOP: Standardized Test, Chapter 1   MSC: DOK 1
  3. ANS: B   PTS: 1   DIF: Level B   NAT: NT.CCSS.MTH.10.9-12.G.CO.1
     TOP: Standardized Test, Chapter 1   MSC: DOK 1
  4. ANS: D   PTS: 1   DIF: Level B   TOP: Standardized Test, Chapter 1
     MSC: DOK 1
  5. ANS: B   PTS: 1   DIF: Level B   TOP: Standardized Test, Chapter 1
     MSC: DOK 2
  6. ANS: D   PTS: 1   DIF: Level B   TOP: Standardized Test, Chapter 1
     MSC: DOK 2
  7. ANS: A   PTS: 1   DIF: Level B   TOP: Standardized Test, Chapter 1
     MSC: DOK 2
  8. ANS: A   PTS: 1   DIF: Level B   NAT: NT.CCSS.MTH.10.9-12.G.CO.1
     TOP: Standardized Test, Chapter 1   MSC: DOK 1
  9. ANS: B   PTS: 1   DIF: Level B   TOP: Standardized Test, Chapter 1
     MSC: DOK 2
 10. ANS: A   PTS: 1   DIF: Level B   TOP: Standardized Test, Chapter 1
     MSC: DOK 2
 11. ANS: B   PTS: 1   DIF: Level B   NAT: NT.CCSS.MTH.10.9-12.G.CO.1
     TOP: Standardized Test, Chapter 1   MSC: DOK 1
 12. ANS: A   PTS: 1   DIF: Level B   TOP: Standardized Test, Chapter 1
     MSC: DOK 1
 13. ANS: C   PTS: 1   DIF: Level B   TOP: Standardized Test, Chapter 1
     MSC: DOK 1
 14. ANS: A   PTS: 1   DIF: Level B   TOP: Standardized Test, Chapter 1
     MSC: DOK 2
 15. ANS: C   PTS: 1   DIF: Level B   TOP: Standardized Test, Chapter 1
     MSC: DOK 2
 16. ANS: C   PTS: 1   DIF: Level B   TOP: Standardized Test, Chapter 1
     MSC: DOK 2

NUMERIC RESPONSE

 17. ANS: 37.5

     PTS: 1   DIF: Level B   NAT: NT.CCSS.MTH.10.9-12.G.GPE.7
     TOP: Standardized Test, Chapter 1   MSC: DOK 2

SHORT ANSWER

18. ANS:
   a. $\dfrac{25}{\pi}$ ft

   b. $\dfrac{25}{\pi}$ ft

   PTS: 1   DIF: Level B   NAT: NT.CCSS.MTH.10.9-12.G.MG.1
   TOP: Standardized Test, Chapter 1   MSC: DOK 2

OTHER

19. ANS:
   a. 54°
   b. 126°
   c. 36°

   PTS: 1   DIF: Level B   TOP: Standardized Test, Chapter 1
   MSC: DOK 3