1. Name three points that are collinear.

[A] points *T*, *Q*,and *R*

[B] points *T*, *Q*,and *S*

[C] points *S*, *Q*,and *R*

[D] points *T*, *S*,and *R*

2. Write the correct notation for a ray from *Q* through *P*.

3. Describe what $\vec{RS}$ stands for. **Illustrate with a sketch**.

4. Draw four points (A, B, C, and D) on a line so that $\vec{AC}$ and $\vec{AB}$ are opposite rays and $\vec{AC}$ and $\vec{AD}$ are the same ray.

5. If *RS* = 34.1 and *QS* = 68, find *QR*.

[A] 33.9



[B] 23.9

[C] 102.1

[D] 34.1

6. Let E be between F and G. $FE=6r-20$ $EG=5r-24$ $FG=55$

[A]  = 14

[B]  = 5

[C]  = –4

[D]  = 9

7. *R*, *S*, and *T* are collinear. *S* is between *R* and *T. RS* = 2*w* + 1 *ST* = *w* – 1 *RT* = 18.

Determine the length of $\overbar{RS}$.

[A] 13

[B] 16

[C] 6

[D] 5

8. Find the distance between the points (4, 3) and (2, –2).

[A] 29

[B] 37

[C] $\sqrt{29}$

[D] $\sqrt{37}$

9. Find the distance between the points (5, 5) and (9, 2).



10. Find the length of 



11. The distance between points *A* and *B* is \_\_\_\_\_\_\_.

[A] $\sqrt{85}$

[B] $\sqrt{13}$

[C] 85

[D] $\sqrt{11}$

12. If $m∡GOI=44°$ and $m∡HOI=24°$,

 then what is the measure of $∡GOH$?

13. $m∡FDE=\left(2x+7\right)°, m∡CDE=\left(10x-1\right)°, m∡FDC=66°$

 Find $m∡FDE and m∡CDE.$



14. The measurement of angle *D* is $31°$. Classify angle *D* as an acute, right, or obtuse angle.



15. Find the length of the segment from point *C* to the midpoint of $\overbar{AB}$.

16. Find the $m∡PMN$ and $m∡NMR$ if $\overbar{MN}$ bisects $∡PMR$. The $m∡PMR$ is $94°$.

Draw a sketch that shows the given information.

17. $\vec{AB}$ bisects $∡LAX$ and $∡LAX$ measures $72°.$ Find the measure of $∡XAB$.

18. Solve for *x*:

19. Solve for *x*:

 20. Solve for *x*:



 21. Name an angle complementary to $∡COD.$

21. Name an angle supplementary to $∡AOC.$

23. Define complementary angles.

24. and  are supplementary angles.  and  are vertical angles.

 If the , find .



25. Name an angle supplementary to .

 26. Which figure below is *not* a polygon?

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| a. |  | b. |  | c. |  | d. |  |

 27. The figure below is an example of a(n) \_\_\_\_\_\_\_.



|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| a. | nonagon | b. | octagon | c. | hexagon | d. | heptagon |

 28. The figure shown below \_\_\_\_\_\_\_\_\_.



|  |  |  |  |
| --- | --- | --- | --- |
| a. | is a pentagon | c. | is a heptagon |
| b. | is a hexagon | d. | is a quadrilateral |

 29. Which figure below is *not* a convex polygon?

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| a. |  | b. |  | c. |  | d. |  |

 30. Which one of the statements below is *false*?

|  |  |  |  |
| --- | --- | --- | --- |
| a. | A circle is NOT a polygon. | c. | A decagon has 10 sides. |
| b. | An octagon has 8 angles. | d. | A pentagon has 9 angles. |

 31. Name a polygon with 6 sides.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| a. | pentagon | b. | octagon | c. | quadrilateral | d. | hexagon |

 32. Explain why the figure shown does not satisfy the definition of a polygon.



 33. What properties of a polygon make it regular? Sketch an example.

 34. The expressions  and  represent two side lengths (in meters) of a regular octagon. Find the length of a side of the octagon.

 35. The expressions  and  represent two angle measures of a regular pentagon. Find the measure of an angle of the pentagon.

 [1] [A]

 [2] 

 [3] A ray from *R* through *S*

**

 [4] Sketches vary.



 [5] [A]

 [6] [D]

 [7] [A]

 [8] [C]

 [9] 5 units

 [10] 

 [11] [A]

 [12] 20

 [13] *m**FDE*  = 17 and *m**CDE*  = 49

 [14] acute

 [15] 

[16] , 

[17] 

 [18] 5

 [19] 4

 [20] 3

 [21] 

[21] 

[22] [A]

[23] Two angles are complementary if the sum of their measures is .

 [24] 

 [25] 

 [26] A

 [27] D

 [28] A

[29] A

[30] D

[31] D

[32] Answers vary; for example, not every side intersects exactly two other sides.

[33] The polygon is equiangular and equilateral. Drawings will vary; this example is a regular hexagon.



[34] 6 meters

[35] 