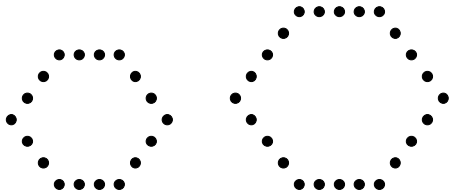
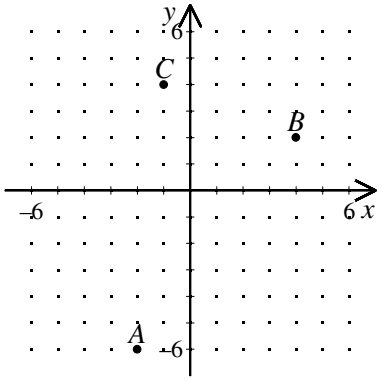
GEO021904 Unit 1 TEST Name: _____

1. Look at the set of dots below. Sketch the next figure, and predict the total number of dots in the 6th figure.



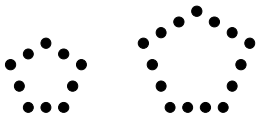
2. Find the length of the segment from point C to the midpoint of $\overline{AB}$.



3. Draw a plane that intersects two planes.

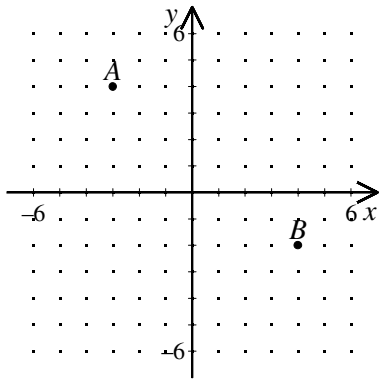
4. Find the measures of $\angle PMN$ and $\angle NMR$ if $\overrightarrow{MN}$ bisects $\angle PMR$. The measure of $\angle PMR$ is $110°$. Draw a sketch that shows the given information.

5. Sketch the next figure. Make a conjecture giving an expression for the number of dots in the nth figure.



GEO021904 Unit 1 TEST Name: _____

6. The distance between points A and B is _____.



[A] $\sqrt{85}$ [B] 85 [C] $\sqrt{13}$ [D] $\sqrt{11}$

7. Find the distance between the points (–3, –8) and (9, –3).

8. C is in the interior of $\angle BOD$. B is in the interior of $\angle AOC$. Then, B is also in the interior of angle _____.

[A] $\angle DOB$ [B] $\angle AOB$ [C] $\angle DOC$ [D] $\angle AOD$

9. The notation for the length of the segment between P and Q is _____.

[A] PQ [B] $\overrightarrow{QP}$ [C] $\overline{PQ}$ [D] $\overleftrightarrow{PQ}$

10. What do $\overrightarrow{PQ}$ and $\overrightarrow{QP}$ have in common?

11. Let B be between C and D. Use the Segment Addition Postulate to solve for x.
$CB = 4x + 6$
$BD = 3x + 8$
$CD = 14$

12. $\angle 1$ and $\angle 2$ are supplementary angles. $\angle 1$ and $\angle 3$ are vertical angles. $m\angle 2 = 67°$. Find $m\angle 3$.

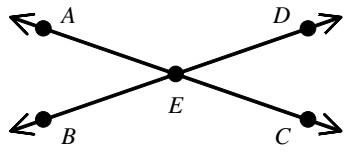
13. Goldbach's conjecture states: every even number greater than 2 can be written as the sum of two primes. Which sum for 30 supports this conjecture?

[A] 15+15 [B] 2+28 [C] 17+13 [D] 12+18

GEO021904 Unit 1 TEST Name: _____

14. Draw four points, *A, B, C*, and *D*, on a line so that $\overrightarrow{CB}$ and $\overrightarrow{CA}$ are opposite rays and $\overrightarrow{CD}$ and $\overrightarrow{CA}$ are the same ray.

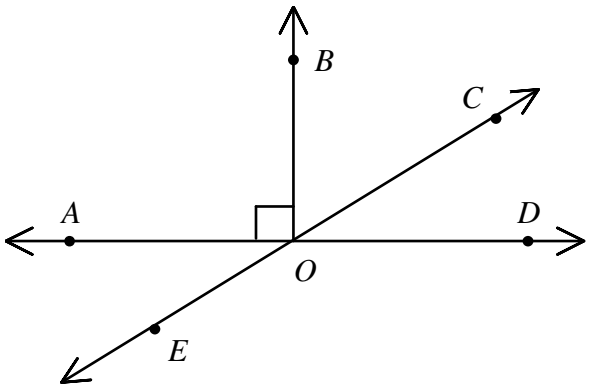
15. In the figure shown, $m\angle AED = 135°$. Which of the following statements is false?



[A] $\angle BEC$ and $\angle CED$ are adjacent angles. [B] $m\angle BEC = 135°$

[C] $m\angle AEB = 55°$ [D] $\angle AEB$ and $\angle DEC$ are vertical angles.

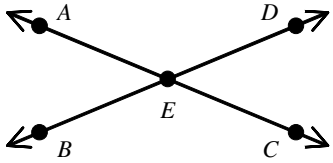
16. Name an angle supplementary to $\angle DOE$.



[A] $\angle AOC$ or $\angle DOE$ [B] $\angle COD$ or $\angle AOE$ [C] $\angle DOE$ [D] $\angle DOB$

17. Find the area of a circle with radius 27 cm. Use 3.14 for π.

18. In the figure shown, $m\angle AED = 127°$. Which of the following statements is false?

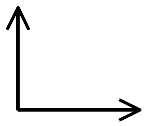


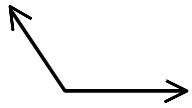
[A] $m\angle AEB = 53°$ [B] $\angle AEB$ and $\angle DEC$ are congruent angles.

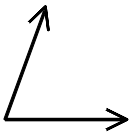
[C] $m\angle BEC = 127°$ [D] $\angle BEC$ and $\angle CED$ are vertical angles.

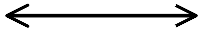
19. Let C be between D and E. Use the Segment Addition Postulate to solve for u.
$DC = 5u + 21$
$CE = 7u + 15$
$DE = 60$

20. Which angle measures $68°$?

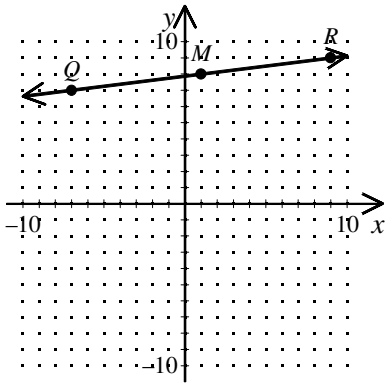
[A] 

[B] 

[C] 

[D] 

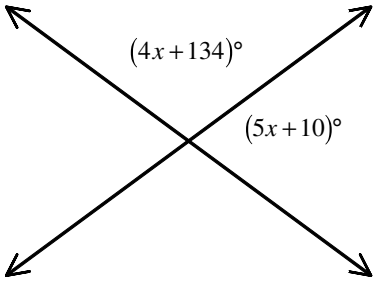
21. The midpoint of $\overline{QR}$ is $M(1, 8)$. One endpoint is $R(9, 9)$. Find the coordinates of the other endpoint.



22. Explain what inductive reasoning is and give an example.

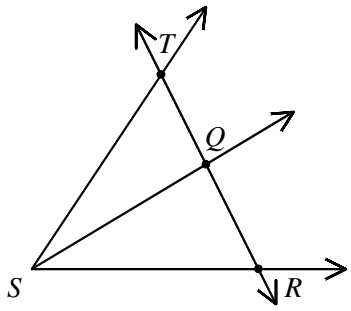
23. $\overrightarrow{AB}$ bisects $\angle LAX$ and $\angle LAX$ measures $92°$. Find the measure of $\angle LAB$.

24. Solve for x:



25. A can of paint will cover 108 square feet. How many cans of paint are needed to paint a wall 6 feet high and 75 feet long?

26. Name three points that are collinear. Assume $\angle TSR$ is not a straight angle.



[A] points S, Q, and R

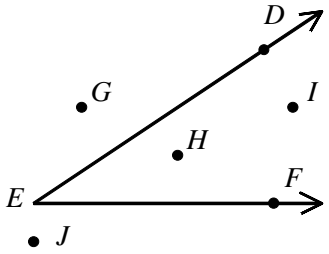
[B] points T, S, and R

[C] points T, Q, and R

[D] points T, Q, and S

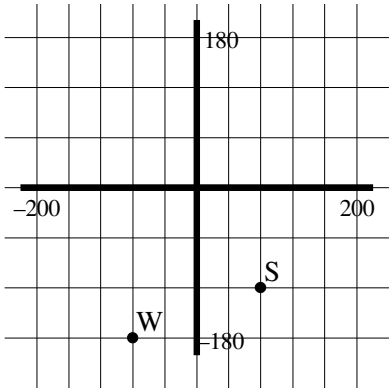
27. Sketch the intersection of a line and a plane.

28. Name a point on $\angle DEF$.



GEO021904 Unit 1 TEST Name: _____

29. On a certain farm, individual crops are laid out in rectangles that are 60 feet north and south, and 40 feet east and west. How far would you have to walk to get from the shed (S) to the well (W) if you did not step on any crops? How far would it be if you walked diagonally across the crops?



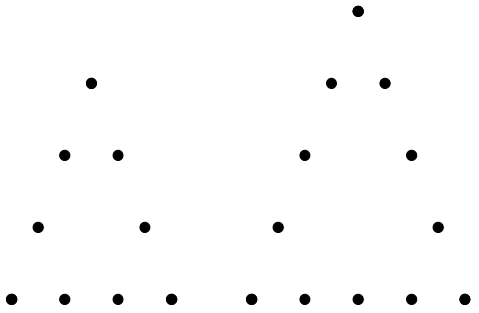
[A] 243 feet; about 280 feet

[B] 280 feet; about 243 feet

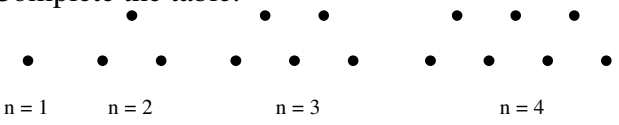
[C] 171 feet; about 220 feet

[D] 220 feet; about 171 feet

30. Look at the set of dots below. Sketch the next figure, and predict the total number of dots in the 6th figure.



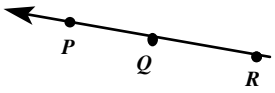
31. Complete the table.

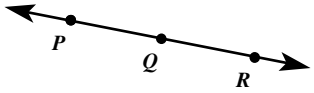


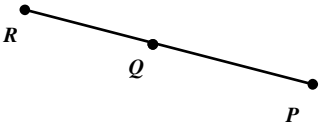
n	1	2	3	4	5	6
*n*th number	1	3	5	?	?	?

32. A play yard is 28 ft by 17 ft. A fence is to be built around the yard. How many feet of fencing will be needed? If fencing costs $6.90 per foot, what will be the cost of the fence?

33. $\overrightarrow{PR}$ is represented by which sketch?

[A] 

[B] 

[C] 

[D]