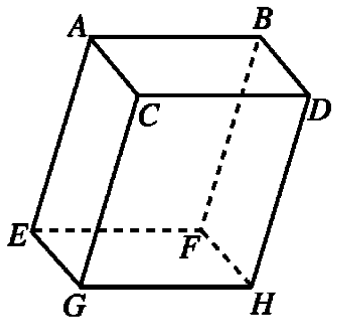
Name: _____ **Class:** _____ **Date:** _____ **ID: C**

Chapter 1 Exam

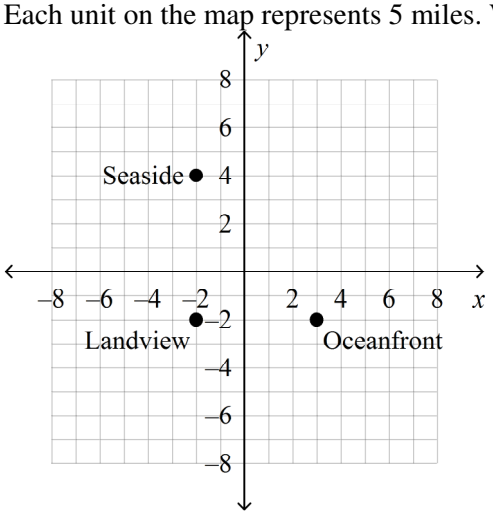
Multiple Choice
Identify the choice that best completes the statement or answers the question.

____ 1. Name the four labeled segments that are skew to $\overline{EG}$.



a. $\overline{AB}, \overline{AC}, \overline{DH}, \overline{CD}$ b. $\overline{BF}, \overline{DH}, \overline{CD}, \overline{AB}$ c. $\overline{BF}, \overline{CD}, \overline{EF}, \overline{AB}$ d. $\overline{CD}, \overline{BH}, \overline{AB}, \overline{DH}$

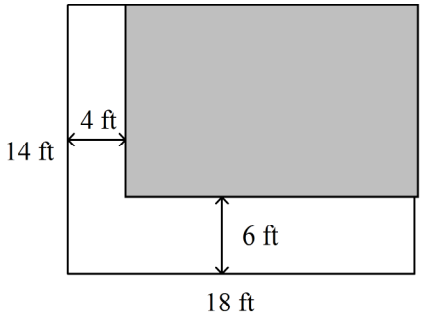
____ 2. Each unit on the map represents 5 miles. What is the actual distance from Oceanfront to Seaside?



a. 50 miles b. about 40 miles c. about 8 miles d. 10 miles

____ 3. Bryan wants to put a fence around his rectangular garden. His garden measures 32 feet by 39 feet. The garden has a path around it that is 3 feet wide. How much fencing material does Bryan need to enclose the garden and path?
a. 166 ft b. 83 ft c. 118 ft d. 154 ft

____ 4. Write an expression that gives the area of the *shaded* region in the figure below. You do not have to evaluate the expression. The diagram is not to scale.

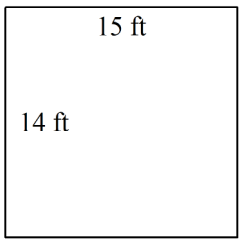


a. $A = (18-6)\times(14-4)$ b. $A = 14\times18-4\times6$ c. $A = (18-4)\times(14-6)$
d. $A = 14 \times 18 - (14 \times 4) - (18 \times 6)$

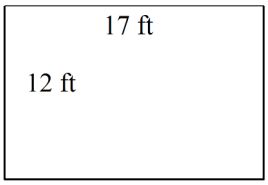
____ 5. Find a counterexample to show that the conjecture is false.
Conjecture: The product of two positive numbers is greater than the sum of the two numbers.
a. There is no counterexample. The conjecture is true. b. 3 and 5 c. 2 and 2 d. A counterexample exists, but it is not shown above.

____ 6. Miriam has 58 feet of fencing to make a rectangular vegetable garden. Which dimensions will give Miriam the garden with greatest area? The diagrams are not to scale.

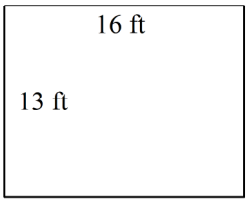
a.



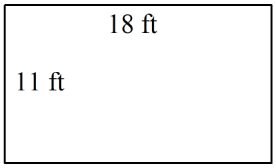
b.



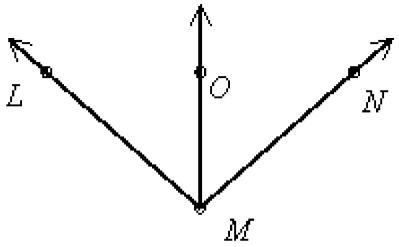
c.



d.



____ 7. $\overrightarrow{MO}$ bisects $\angle LMN$, $m\angle LMO = 7x - 22$, and $m\angle NMO = 2x + 33$. Solve for x and find $m\angle LMN$. The diagram is not to scale.



a. $x = 10$, $m\angle LMN = 96$ b. $x = 10$, $m\angle LMN = 48$ c. $x = 11$, $m\angle LMN = 110$ d. $x = 11$, $m\angle LMN = 55$

____ 8. Name the ray in the figure.

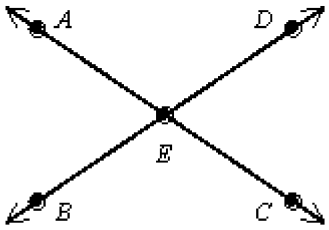
a. $\overrightarrow{AB}$ b. $\overline{BA}$ c. $\overrightarrow{BA}$ d. $\overleftrightarrow{AB}$

____ 9. If $EF = 2x - 13$, $FG = 3x - 8$, and $EG = 24$, find the values of x, EF, and FG. The drawing is not to scale.

a. $x = 9$, $EF = 31$, $FG = 35$ b. $x = 5$, $EF = -3$, $FG = 7$ c. $x = 5$, $EF = 5$, $FG = 19$ d. $x = 9$, $EF = 5$, $FG = 19$

____ 10. Plane ABC and plane BCE ____ be the same plane.
a. cannot b. may c. must

____ 11. In the figure shown, $m\angle AED = 127$. Which of the following statements is false?



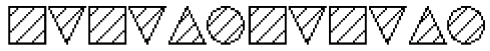
Not drawn to scale

a. $\angle DEC$ and $\angle AEB$ are adjacent angles. b. $m\angle AEB = 53$ c. $\angle AEB$ and $\angle BEC$ are adjacent angles. d. $m\angle BEC = 127$

____ 12. $\overline{DE}$ and $\overline{CF}$ ____ be coplanar.
a. cannot b. must c. may

____ 13. Find the distance between points $P(7, 4)$ and $Q(9, 2)$ to the nearest tenth.
a. 17.1 b. 2.8 c. 4 d. 8

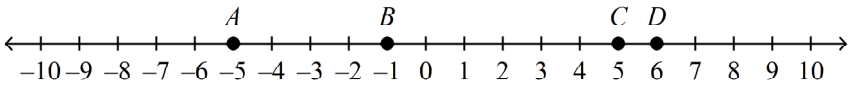
____ 14. Based on the pattern, what is the next figure in the sequence?



a.  b.  c.  d. 

____ 15. $\angle DFG$ and $\angle JKL$ are complementary angles. $m\angle DFG = x + 7$, and $m\angle JKL = x - 5$. Find the measure of each angle.
a. $\angle DFG = 51, \angle JKL = 49$ b. $\angle DFG = 51, \angle JKL = 39$ c. $\angle DFG = 44, \angle JKL = 46$ d. $\angle DFG = 44, \angle JKL = 56$

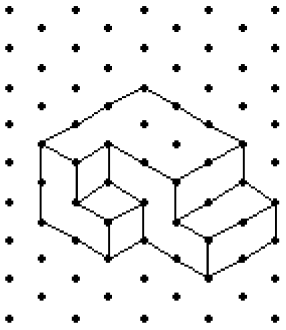
____ 16. Find BD.



a. 7 b. 5 c. 9 d. 10

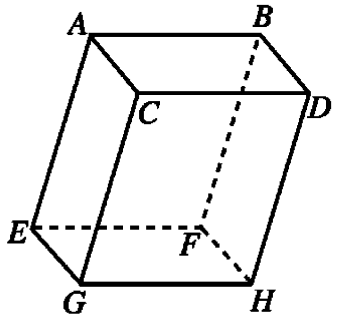
____ 17. $\angle 1$ and $\angle 2$ are supplementary angles. $m\angle 1 = x - 23$, and $m\angle 2 = x + 97$. Find the measure of each angle.
a. $\angle 1 = 30, \angle 2 = 150$ b. $\angle 1 = 53, \angle 2 = 137$ c. $\angle 1 = 30, \angle 2 = 160$ d. $\angle 1 = 53, \angle 2 = 127$

____ 18. How many cubes would you use to make the structure below?



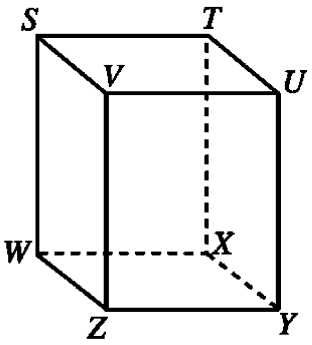
a. 15 cubes b. 16 cubes c. 18 cubes d. 17 cubes

____ 19. Name the three labeled segments that are parallel to $\overline{EG}$.



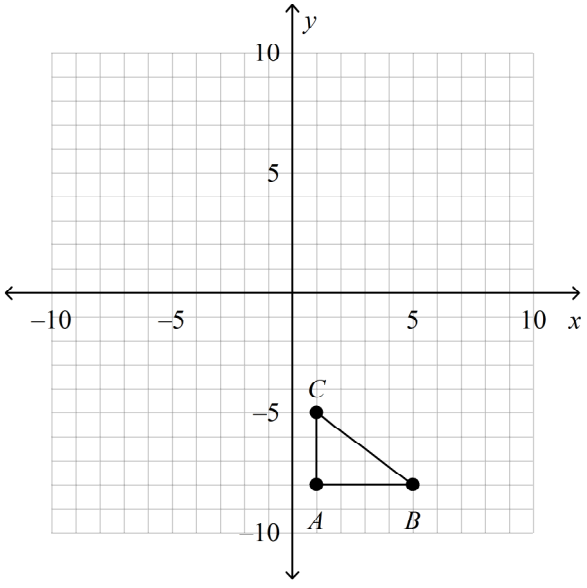
a. $\overline{BD}, \overline{AC}, \overline{FH}$ b. $\overline{FH}, \overline{CG}, \overline{AC}$ c. $\overline{BF}, \overline{AC}, \overline{FH}$ d. $\overline{EF}, \overline{BD}, \overline{AC},$

____ 20. What is the intersection of plane *STUV* and plane *UYXT*?



a. $\overleftrightarrow{TX}$ b. $\overleftrightarrow{SV}$ c. $\overleftrightarrow{ST}$ d. $\overleftrightarrow{YZ}$

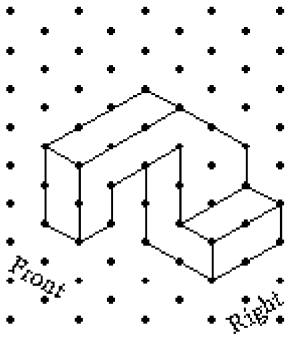
____ 21. Find the perimeter of ΔABC with vertices $A(1, -8)$, $B(5, -8)$, and $C(1, -5)$.

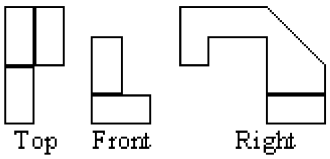


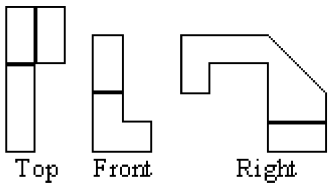
a. 7 units b. 32 units c. 14 units d. 12 units

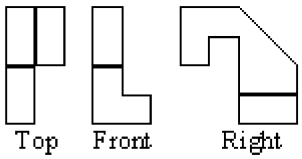
____ 22. ____ two points are collinear.
a. Any b. Sometimes c. No

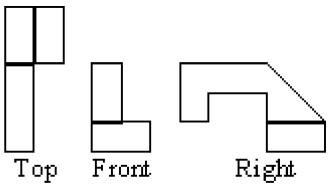
____ 23. Match the isometric drawing with the correct orthographic drawing.



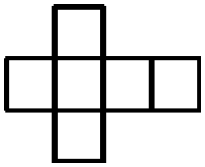
a.


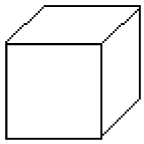
b.


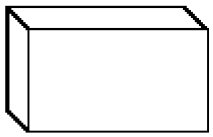
c.


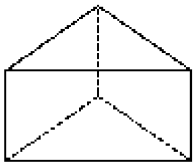
d.


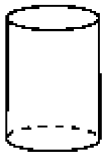
____ 24. Which three-dimensional figure matches this net?



a.


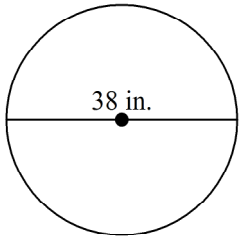
b.


c.


d.


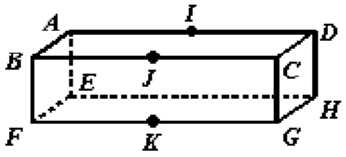
____ 25. Name the intersection of plane RNP and plane MNP.
a. $\overleftrightarrow{NP}$ b. $\overleftrightarrow{MP}$ c. $\overleftrightarrow{RN}$ d. The planes need not intersect.

____ 26. Find the area of the circle in terms of π.



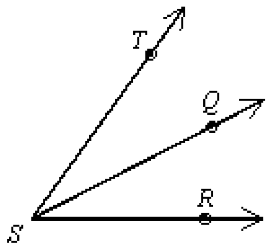
a. 361π in.^{2} b. 76π in.^{2} c. 1444π in.^{2} d. 38π in.^{2}

____ 27. Are points *A*, *B*, and *E* collinear or noncollinear?



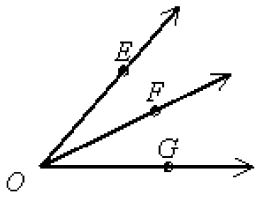
a. collinear b. noncollinear c. impossible to tell

____ 28. $\overrightarrow{SQ}$ bisects $\angle RST$, and $m\angle RSQ = 3x - 2$. Write an expression for $\angle RST$. The diagram is not to scale.



a. $6x - 4$ b. $3x - 2$ c. $6x - 2$ d. $1.5x - 1$

____ 29. If $m\angle EOF = 30$ and $m\angle FOG = 27$, then what is the measure of $\angle EOG$? The diagram is not to scale.



a. 3 b. 60 c. 54 d. 57

____ 30. Which angle is a straight angle?

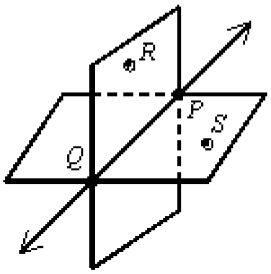
a. 

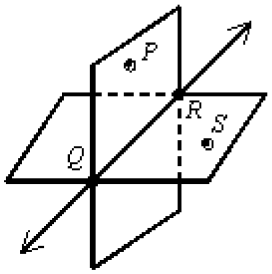
b. 

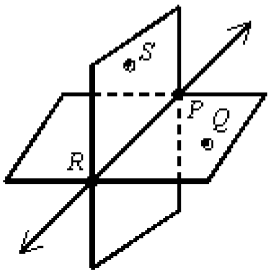
c. 

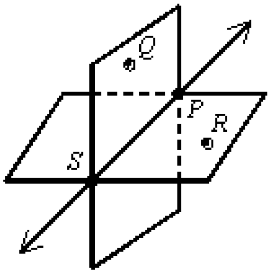
d. 

____ 31. Which diagram shows plane *PQR* and plane *QRS* intersecting only in $\overleftrightarrow{QR}$?

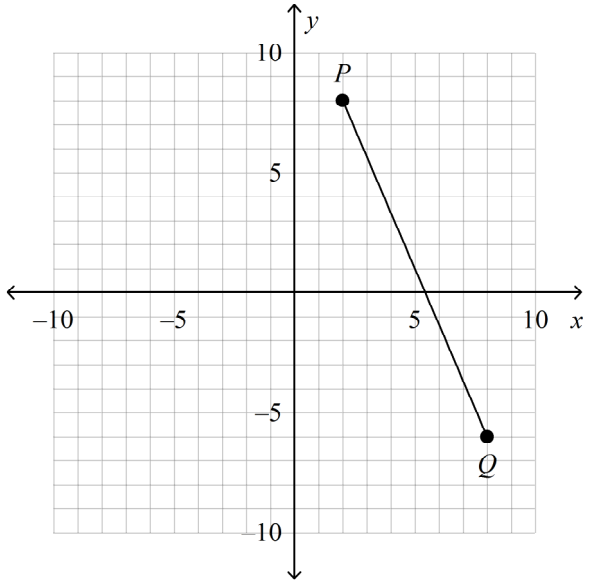
a. 

b. 

c. 

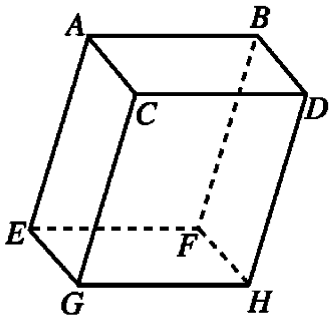
d. 

____ 32. Find the midpoint of $\overline{PQ}$.



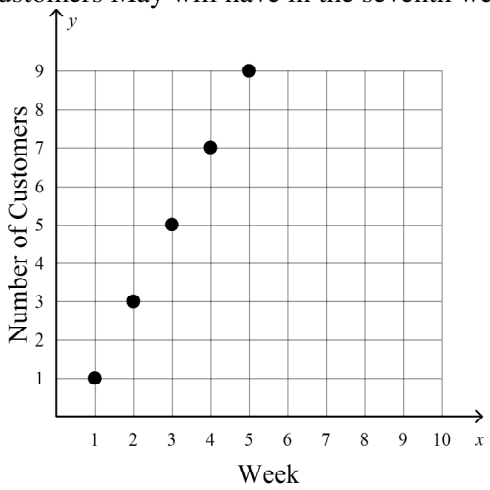
a. (4, 1) b. (5, 2) c. (4, 2) d. (5, 1)

____ 33. Which plane is parallel to plane *EFHG*?



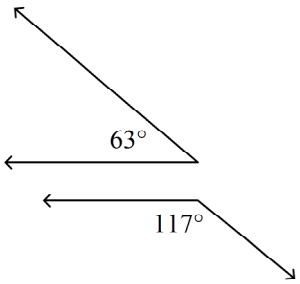
a. plane *ABDC* b. plane *ACGE* c. plane *BDHF* d. plane *CDHG*

____ 34. May's Internet Services designs websites. May noticed an increase in her customers over a period of 5 consecutive weeks. Based on the pattern shown in the graph, make a conjecture about the number of customers May will have in the seventh week.



a. May will have 11 customers. b. May will have 7 customers. c. May will have 9 customers. d. May will have 13 customers.

____ 35. How are the two angles related?



Drawing not to scale

a. complementary b. adjacent c. vertical d. supplementary

____ 36. Supplementary angles are two angles whose measures have sum ____.
Complementary angles are two angles whose measures have sum ____.
a. 90; 45 b. 180; 90 c. 180; 360 d. 90; 180

____ 37. If $\angle A$ and $\angle B$ are supplementary angles and $m\angle A = 5m\angle B$, find $m\angle A$ and $m\angle B$.
a. 150, 30 b. 30, 150 c. 75, 15 d. 15, 75