

GEOMETRY

Exam 1

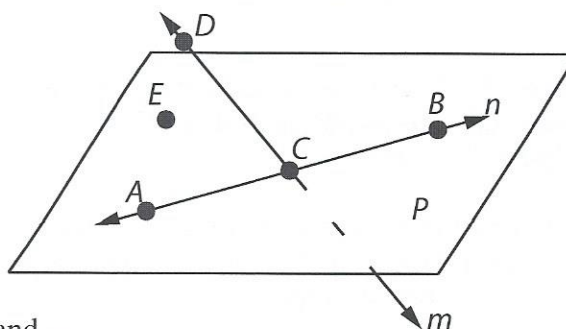
Based on Chapter 1 (pages xxii - 69) in your textbook.

Student's Name _____ Student Number _____

Street _____ City _____ State _____ Zip Code _____

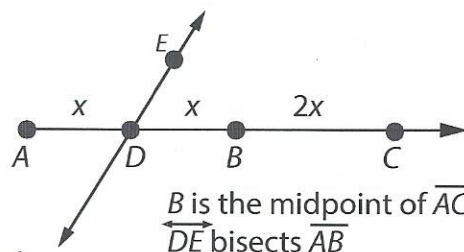
BE SURE YOU FULLY UNDERSTAND ALL CHECKPOINT PROBLEMS FROM THIS CHAPTER BEFORE YOU COMPLETE THIS EXAM. **SHOW AS MUCH WORK AS POSSIBLE.**

Items 1-6: Use the diagram to the right.



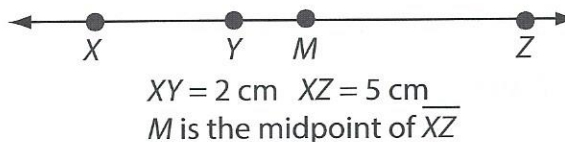
- Two other names for $\overleftrightarrow{CD}$ are _____ and _____.
- Three non-collinear points are _____, _____, and _____.
- _____, _____, _____, and _____ are coplanar.
- _____ and _____ are opposite rays.
- The intersection of line m and plane P is _____.
- The intersection of plane P and plane DCB is _____.

Items 7-8: Use the diagram to the right.



- If $AC = 12$, then $AB =$ _____ and $AD =$ _____.
- If $DC = 15$, then $AC =$ _____.

Items 9-11: Use the diagram to the right to find the lengths of the segments given.



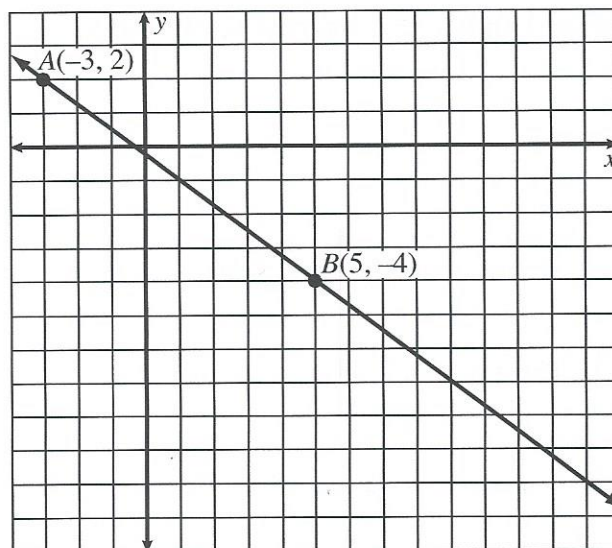
9. $YZ =$ _____ cm

10. $XM =$ _____ cm

11. $YM =$ _____ cm

Items 12-14: Use the graph at right and show all your work for full credit.

Given $A(-3, 2)$ and $B(5, -4)$



12. Use the Midpoint Formula to calculate the midpoint of $\overline{AB}$. Name it point M and plot it on the graph.

13. Calculate the lengths:

a. $AB =$ _____

b. $AM =$ _____

c. $MB =$ _____

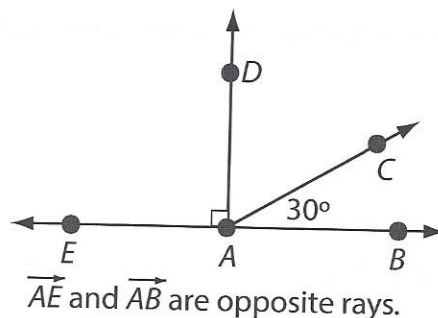
14. Use the Midpoint Formula to find an endpoint C , such that B is the midpoint of $\overline{AC}$. Plot point C on the graph.

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Student's Name _____ Student Number _____

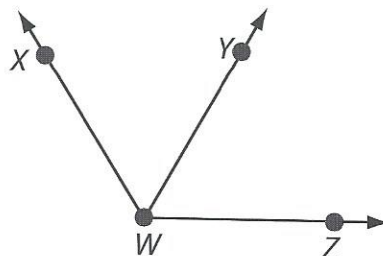
Items 15-19: Use the diagram to the right.



15. $\angle$ _____ and $\angle$ _____ are acute angles.
16. $\angle$ _____ and $\angle$ _____ are right angles.
17. $\angle$ _____ is an obtuse angle,
and $\angle$ _____ is a straight angle.
18. $\angle$ _____ and $\angle CAB$ are supplementary, while $\angle$ _____ and $\angle CAB$ are complementary.
19. $m\angle DAC =$ _____, and $m\angle EAC =$ _____.

Items 20-21: Use the diagram to the right.

Given: $m\angle XWY = 2x + 5$,
 $m\angle YWZ = 5x - 79$, and
 $m\angle XWZ = 122^\circ$.

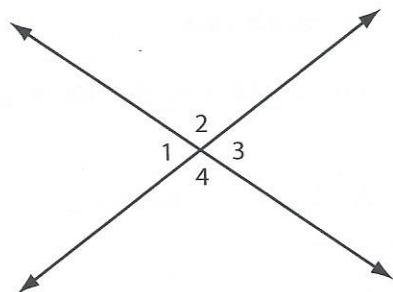


20. $m\angle YWZ =$ _____.
21. Does $\overrightarrow{WY}$ bisect $\angle XWZ$? Show work to justify your answer. YES or NO (circle answer)

(over)

Items 22-25: Use the diagram to the right.

22. Identify all of the linear pairs (use angle numbers).



23. Identify all of the vertical angles.

24. $m\angle 3 + m\angle 4 =$ _____.

25. If $m\angle 1 = (4x + 12)^\circ$, $m\angle 2 = (7x + 3)^\circ$, and $m\angle 3 = 6y^\circ$,

then $x =$ _____, $m\angle 1 =$ _____, $m\angle 2 =$ _____, and $y =$ _____.

26. A polygon has 6 sides, all 4 inches long, with all interior angles equal to 120° .
This polygon can be classified as _____ (circle all of the terms below that apply).

convex *concave* *equilateral* *equiangular* *regular*

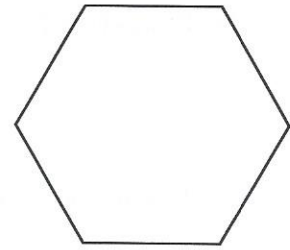
a triangle *a rectangle* *a pentagon* *a hexagon* *an octagon*

(more)

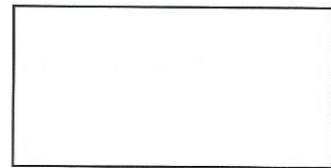
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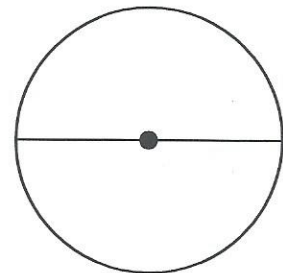
27. If the perimeter of a regular hexagon is 42 cm,
then each side is _____ cm long.



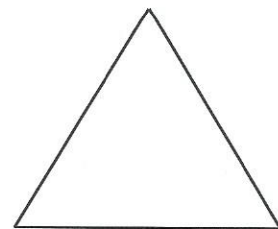
28. A 4 ft by 8 ft rectangle has a perimeter of _____ ft
and an area of _____ ft^2 .



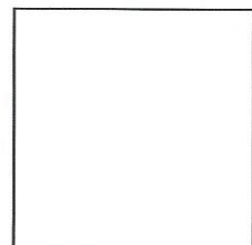
29. A circle with a diameter of 8 inches has a circumference of _____
and an area of _____.
(You may answer as a multiple of pi (π) or use 3.14. Don't forget the units.)



30. A triangle with base of 6 cm and area of 15 cm^2
has a height of _____.



31. A square with an area of 49 in.^2 has a perimeter of _____.



(over)

32. A rectangular porch has a perimeter of 49 ft and a width of 6.5 ft.

- Find the length of the porch in feet. _____
- Find the area of the porch in square feet. _____
- Find the area of the porch in square **yards**. _____

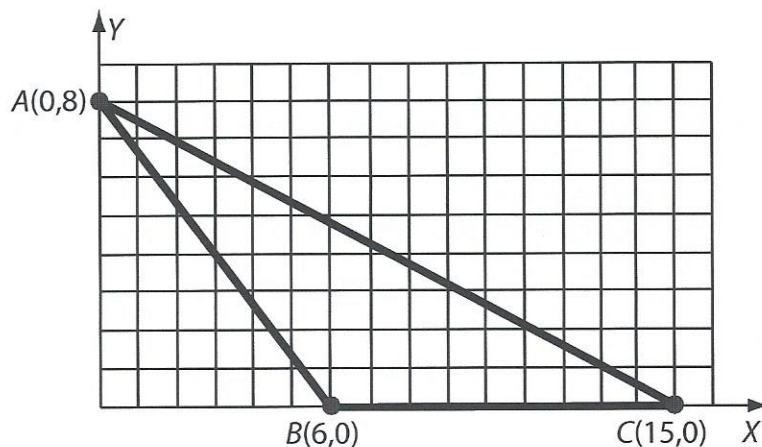
Items 33-34: Use the diagram at right.

33. $AB =$ _____

$AC =$ _____

$BC =$ _____

perimeter of $\triangle ABC =$ _____



34. The area of $\triangle ABC =$ _____ square units.

FILL IN YOUR NAME AND THE OTHER REQUIRED INFORMATION ON EACH PAGE OF THE EXAM AND MAIL THE EXAM TO AMERICAN SCHOOL.