

UNIT 6: GEOMETRY REVIEW SHEET

Part 1: Simplifying radicals.

1. $5\sqrt{6} \cdot \frac{1}{6}\sqrt{216}$

2. $-21\sqrt{27x^5}$

3. $3\sqrt{98a^3b^7}$

4. $\sqrt{12} \cdot \sqrt{75}$

Part 2: Solving radical equations.

5. $3 - \sqrt{x} = -2$

6. $\sqrt{10b + 6} = 6$

7. $\sqrt{n + 5} = \sqrt{5n - 11}$

8. $-2\sqrt{2r + 5} = 6$

Part 3: Pythagorean Theorem.

9. The area of a square is 49in^2 . Find the length of its diagonal. Leave your answer as a simplified radical.

10. Determine if the following sides lengths create a right triangle: 13, 38, 35

11. If you walked 3 blocks north and then 8 blocks west and then 10 blocks south, how far are you from your starting point if each block is $\frac{2}{10}$ of a mile?

Part 4: Distance and Midpoint

Find the distance and midpoint between each pair of points.

12. A(3,5) and B(8,5)

13. A(10,-2) and B(-6,3)

14. M is the midpoint of AB. If A is located at (6,10) and M is located at (5,7), find the coordinates of B.

Part 5: Geometry

15. Find the perimeter of a triangle if the vertices are located at A(2,1) B(6,-3) and C(1,-7).

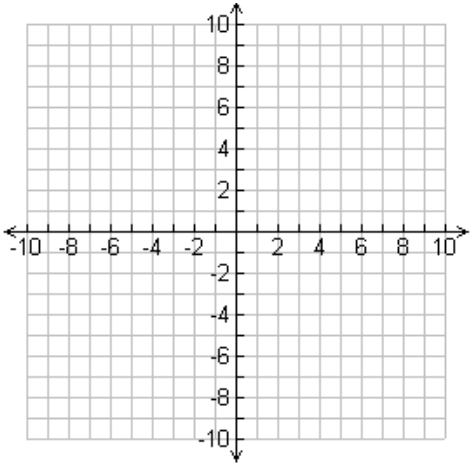
16. The volume of a cylinder is 1526.04 in^3 . If the height is 6in, find the length of the diameter.

17. Find the volume of a sphere if the circumference around the sphere is 31.4 inches.

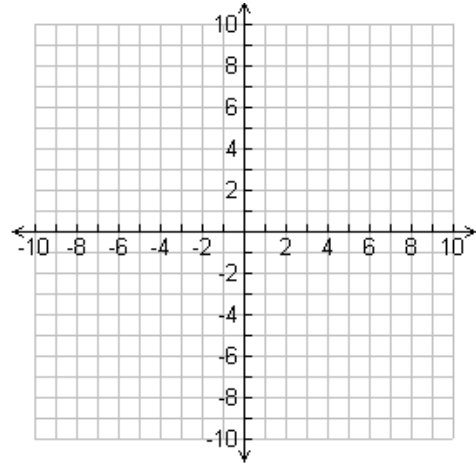
18. If you double the radius of a sphere, how many times greater is the new volume?

Part 6 Transformations:

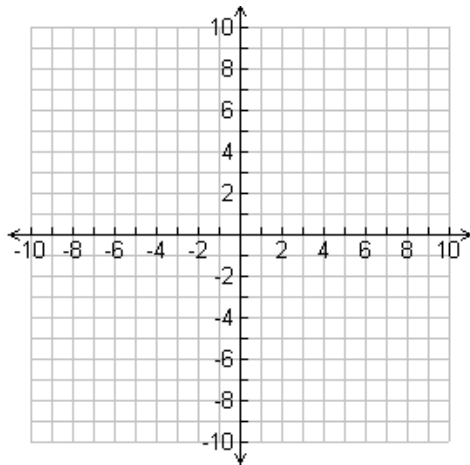
19. Plot points A(1,2), B(1,4), C(4, 4), D(3, 2). Rotate 270° clockwise. Remember to label new shape with prime.



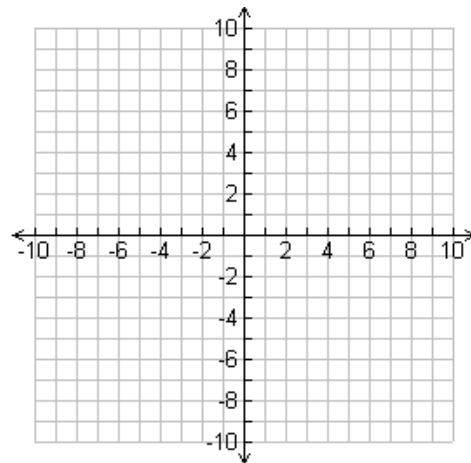
20. Plot points A(1,1), B(3,5), C(4,1). Translate 2 left and 4 down



21. Plot points A(-4, 2), B(-2,5), C(-2, 3). Reflex across the x-axis.

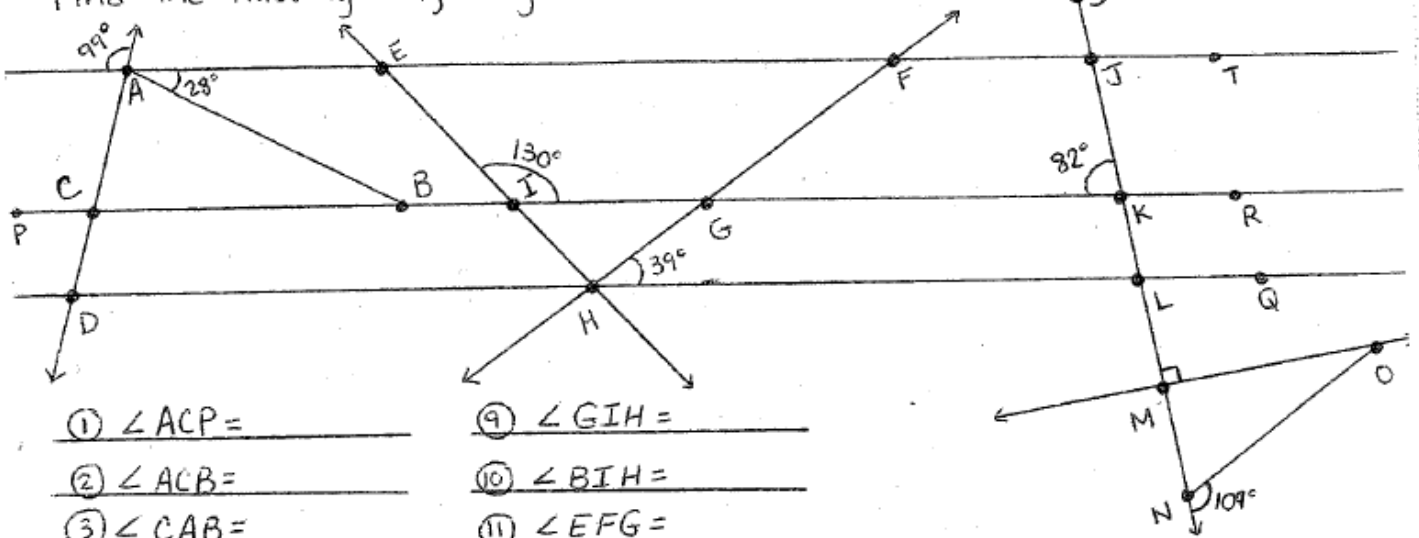


22. Plot points A(-2,1), B(0,1), C(1, 2), D(2,0). Dilate by a factor of 3



Complete the following angle puzzle.

Find the missing angles given: $\overleftrightarrow{AE} \parallel \overleftrightarrow{CK} \parallel \overleftrightarrow{HL}$



- ① $\angle ACP =$ _____
- ② $\angle ACB =$ _____
- ③ $\angle CAB =$ _____
- ④ $\angle PCD =$ _____
- ⑤ $\angle CBA =$ _____
- ⑥ $\angle ABI =$ _____
- ⑦ $\angle CDH =$ _____
- ⑧ $\angle HGI =$ _____

- ⑨ $\angle GIH =$ _____
- ⑩ $\angle BIH =$ _____
- ⑪ $\angle EFG =$ _____
- ⑫ $\angle IEF =$ _____
- ⑬ $\angle GHI =$ _____
- ⑭ $\angle MNO =$ _____
- ⑮ $\angle NMO =$ _____
- ⑯ $\angle NOM =$ _____

- ⑰ $\angle MLG =$ _____
- ⑱ $\angle JKR =$ _____
- ⑲ $\angle SJT =$ _____
- ⑳ $\angle HLK =$ _____