



Coordinate Plane & Graphs

Name: _____

Grade: 7 _____

Date: _____

Graph equations, find distance and midpoint, perform transformations, and solve real context problems. Show work and reasoning.

Part 1 · Plotting & Quadrants PLOT

1. Plot (4,-3): quadrant = _____

2. Plot (-2,5): quadrant = _____

3. Plot (-6,-1): quadrant = _____

4. Plot (0,7): axis = _____

5. Plot (3,0): axis = _____

6. Plot (0,0): name = _____

Part 2 · Distance & Midpoint DISTANCE

7. Distance (2,5) to (2,-1) = _____

8. Distance (4,3) to (-2,3) = _____

(9. Midpoint of $(2,8)$ & $(2,-4)$ = (_____ , _____)

(10. Midpoint of $(3,7)$ & $(9,7)$ = (_____ , _____)

(11. Distance $(0,0)$ to $(6,8)$?

(12. Midpoint of $(0,0)$ & $(6,8)$?

Part 3 · Graphing Equations GRAPH

(13. Graph $y = 2x$ for $x=0,1,2,3$.

(14. Graph $y = -x$ for $x=0,2,4$.

(15. Graph $y = x + 3$ for $x=1,2,3$.

(16. Graph $y = 3x - 2$ for $x=0,1,2$.

(17. Graph $y = 0.5x$ for $x=2,4,6$.

(18. Graph $y = -2x + 5$ for $x=0,1,2$.

Part 4 · Transformations TRANSFORM

(19. Reflect $(3,4)$ over y-axis?

20. Reflect $(-2,5)$ over x-axis?

21. Rotate $(2,5)$ 180° about origin?

22. Translate $(1,2)$ right 4, up 3?

23. Scale $(2,3)$ by factor 2?

24. Translate $(-3,-4)$ left 2, down 1?

Part 5 · Context & Word Problems CONTEXT

25. A drone moves from $(3,4)$ to $(3,-5)$. Vertical distance = _____

26. A robot moves from $(-2,7)$ to $(5,7)$. Horizontal distance = _____

27. A point $(0,0)$ moves right 6, up 8. New coordinates = (_____ , _____)

28. Reflection: Most helpful strategy? _____

Part 6 · Error Analysis ERROR

29. Error: Distance $(2,5)$ to $(2,-1)$ is 4. Correct & mistake?

30. Error: Reflect $(3,4)$ over y-axis is $(3,-4)$. Correct & why?

31. Error: Midpoint of $(2,8)$ & $(2,-4)$ is $(2,4)$. Correct & why?

Part 7 · Challenge & Reflection CHALLENGE

32. Distance $(2,8)$ to $(2,-4)$?

33. Midpoint of $(3,7)$ & $(9,7)$?

34. Reflect $(6,8)$ over both axes?

35. Reflection: Most helpful strategy? _____

Answer Key

1. QIV
2. QII
3. QIII
4. y-axis
5. x-axis
6. origin
7. 6
8. 6
9. 2,2
10. 6,7
11. 10
12. 3,4
13. (0,0),(1,2),(2,4),(3,6)
14. (0,0),(2,-2),(4,-4)
15. (1,4),(2,5),(3,6)
16. (0,-2),(1,1),(2,4)
17. (2,1),(4,2),(6,3)
18. (0,5),(1,3),(2,1)
19. (-3,4)
20. (-2,-5)
21. (-2,-5)
22. (5,7)
23. (4,6)
24. (-5,-5)
25. 9
26. 7
27. 6,8
28. Varies
29. 6 / subtracted not absolute difference
30. (-3,4) / sign error
31. 2,2 / average not sum
32. 12
33. 6,7
34. (-6,-8)
35. Varies

Accept equivalent forms. Reflection varies.