Transitions to College Mathematics
Review 2.1

Name Key

SHOW ALL WORK!

Follow the directions stated for each problem.

1. Test the equation for symmetry with respect to the x-axis, the y-axis, and the origin.

$$y = 2x - 1$$

x-axis	y-axis	origin
$(-y) = 2x - 1$	$y = 2(-x) - 1$	$(-y) = 2(-x) - 1$
$-y = 2x - 1$	$y = -2x - 1$	$-y = -2x - 1$
✳	✳	✳

No Symmetry

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2. Test the equation for symmetry with respect to the x-axis, the y-axis, and the origin.

$$y = 2|x|$$

x-axis	y-axis	origin
$-y = 2\|x\|$	$y = 2\|x\|$	$-y = 2\|-x\|$
✳	$y = 2\|x\|$ ✓	$-y = 2\|x\|$
		✳

y-axis symmetry

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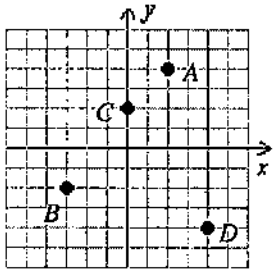
3. Find the coordinates of points A, B, C, and D.



A: (2, 4) B: (−3, −2) C: (0, 2) D: (4, −4)

4. Given $A = (2, 4)$, $B = (-5, 0)$, $C = (6, -1)$, $D = (3, -2)$, reflect A, B, C, and D through the *x-axis* and give the coordinates of the reflected points, A', B', C', and D'.

A': (2, −4) B': (−5, 0)

C': (6, 1) D: (3, 2)

Given $A = (2, 4)$, $B = (-5, 0)$, $C = (6, -1)$, $D = (3, -2)$, reflect A, B, C, and D through the *y-axis* and give the coordinates of the reflected points, A', B', C', and D'.

A: (−2, 4) B: (5, 0)

C: (−6, −1) D: (−3, −2)

6. Given $A = (2, 4)$, $B = (-5, 0)$, $C = (6, -1)$, $D = (3, -2)$, reflect A, B, C, and D through the origin and give the coordinates of the reflected points, A', B', C', and D'.

A': (−2, −4) B': (5, 0)

C': (−6, 1) D: (−3, 2)

Transitions to College Mathematics
Review 2.2

Name Key

SHOW ALL WORK!

1. Find the distance between (–2, 3) and (4, 0).

$d = \sqrt{(3-0)^2 + (-2-4)^2}$

$d = \sqrt{(3)^2 + (-6)^2}$

$d = \sqrt{9+36}$

$d = \sqrt{45}$

$d = 3\sqrt{5}$

45
9 5

2. Find the midpoint of the line segment with endpoints (–2, 3) and (4, 0).

$mdpt = \left(\frac{-2+4}{2}, \frac{3+0}{2}\right)$

$= \left(\frac{2}{2}, \frac{3}{2}\right)$

$= \left(1, \frac{3}{2}\right)$

3. Find the distance between (–4, 1) and (2, -3).

$d = \sqrt{(1+3)^2 + (-4-2)^2}$

$= \sqrt{(4)^2 + (-6)^2}$

$= \sqrt{16+36}$

$= \sqrt{52}$

$= 2\sqrt{13}$

52
2 26
2 13

4. Find the midpoint of the line segment with endpoints (–2, 6) and (3, 4).

$mdpt = \left(\frac{-2+3}{2}, \frac{6+4}{2}\right)$

$= \left(\frac{1}{2}, \frac{10}{2}\right)$

$= \left(\frac{1}{2}, 5\right)$

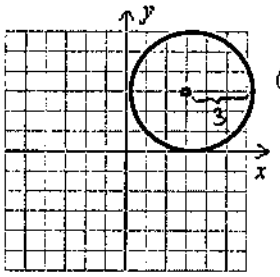
6 10. Find the center and radius of the circle.

$(x-h)^2 + (y-k)^2 = r^2$

$(x+3)^2 + y^2 = 5$

C: (-3, 0) $r = \sqrt{5}$

5. Write the equation of the circle.



Center (3,3)

$r = 3$

$(x-3)^2 + (y-3)^2 = 9$

7 12. Find the center and radius of the circle.

$x^2 + y^2 - 8x + 10y = -25$

$(x^2 - 8x + 16) + (y^2 + 10y + 25) = -25 + 16 + 25$

$\left(\frac{b}{2}\right)^2 = \left(\frac{8}{2}\right)^2 = 16$ $\left(\frac{b}{2}\right)^2 = \left(\frac{10}{2}\right)^2 = 25$

$(x-4)^2 + (y+5)^2 = 16$

C: (4, -5) $r = 4$

8 12. Find the center and radius of the circle.

$x^2 + y^2 - 6x + 2y - 3 = 0$

$(x^2 - 6x + 9) + (y^2 + 2y + 1) = 3 + 9 + 1$

$\left(\frac{b}{2}\right)^2 = \left(\frac{-6}{2}\right)^2 = 9$ $\left(\frac{b}{2}\right)^2 = \left(\frac{2}{2}\right)^2 = 1$

$(x-3)^2 + (y+1)^2 = 13$

C: (3, -1) $r = \sqrt{13}$