



TRANSFORMATIONS ON THE COORDINATE PLANE

PIXEL ART BUNDLE | SELF-CHECKING | ELL VOCABULARY SUPPORTS

Grade 7-9	CCSS 8.G.A.1 - 8.G.A.3	4 Mystery Pictures	51 Problems	ENGLISH ELL SUPPORT
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- 4 themed, self-checking pixel-art mystery pictures (print & go)
- ELL-friendly vocabulary cards in clear English with visual icons
- Sentence frames & drag-and-drop categorization for multilingual learners
- Visual rule reminders embedded on every pixel sheet
- Immediate pixel-reveal feedback = built-in auto-grading
- Teacher progress dashboard + printable vocabulary reference
- Complete, fully-worked answer keys for all 51 problems

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PICTURE 1 - REFLECTIONS

Flip over the x-axis, y-axis, $y = x$, and $y = -x$

VOCABULARY ANCHOR

flip - line of reflection - mirror image

VISUAL RULE REMINDERS

x-axis: $(x, y) \rightarrow (x, -y)$

y-axis: $(x, y) \rightarrow (-x, y)$

$y = x$: $(x, y) \rightarrow (y, x)$

$y = -x$: $(x, y) \rightarrow (-y, -x)$

1. Reflect (3, 5) over the x-axis. Image = ? Answer: _____

3. Reflect (6, -1) over the x-axis. Image = ? Answer: _____

5. Reflect (5, 2) over the y-axis. Image = ? Answer: _____

7. Reflect (1, 8) over the y-axis. Image = ? Answer: _____

9. Reflect (2, 9) over the $y = x$. Image = ? Answer: _____

11. Reflect (3, -8) over the $y = -x$. Image = ? Answer: _____

13. Reflect (4, 4) over the $y = x$. Image = ? Answer: _____

2. Reflect (-2, 4) over the x-axis. Image = ? Answer: _____

4. Reflect (-4, -7) over the x-axis. Image = ? Answer: _____

6. Reflect (-3, -6) over the y-axis. Image = ? Answer: _____

8. Reflect (-7, 3) over the y-axis. Image = ? Answer: _____

10. Reflect (-5, 4) over the $y = x$. Image = ? Answer: _____

12. Reflect (-6, -2) over the $y = -x$. Image = ? Answer: _____

14. Reflect (5, -5) over the $y = -x$. Image = ? Answer: _____

Directions: Solve each problem. Find the square on the Pixel Grid page showing your exact answer and color it with the picture color.
Answer not there? Re-check your work - the picture is your auto-grade!

PICTURE 1 - PIXEL REVEAL GRID

Color a square for every correct answer

					(3, -5)	(-2, -4)	(6, 1)							
					(-4, 7)	(-5, 2)	(3, -6)							
				(-1, 8)	(7, 3)	(9, 2)	(4, -5)	(8, -3)						
					(2, 6)	(4, 4)	(5, -5)							

My progress: I have placed ____ of 14 answers. Mystery picture so far: (sketch a guess!)

PICTURE 2 - ROTATIONS

Turns of 90°, 180°, and 270° CW & CCW about the origin

VOCABULARY ANCHOR	VISUAL RULE REMINDERS
turn - center of rotation - clockwise / counterclockwise	90° CCW: (x, y) -> (-y, x) 90° CW: (x, y) -> (y, -x) 180°: (x, y) -> (-x, -y) 270° CCW = 90° CW ; 270° CW = 90° CCW

1. Rotate (2, 5) 90° counterclockwise about the origin. Image = ? Answer: _____

3. Rotate (6, 1) 90° clockwise about the origin. Image = ? Answer: _____

5. Rotate (4, -3) 180° about the origin. Image = ? Answer: _____

7. Rotate (1, 9) 180° about the origin. Image = ? Answer: _____

9. Rotate (-4, 5) 270° counterclockwise (= 90° CW) about the origin. Image = ? Answer: _____

11. Rotate (-6, 3) 270° clockwise (= 90° CCW) about the origin. Image = ? Answer: _____

13. Rotate (-1, -1) 180° about the origin. Image = ? Answer: _____

15. Rotate (0, -4) 90° clockwise about the origin. Image = ? Answer: _____
2. Rotate (-3, 4) 90° counterclockwise about the origin. Image = ? Answer: _____

4. Rotate (-2, -7) 90° clockwise about the origin. Image = ? Answer: _____

6. Rotate (-5, -6) 180° about the origin. Image = ? Answer: _____

8. Rotate (3, 2) 270° counterclockwise (= 90° CW) about the origin. Image = ? Answer: _____

10. Rotate (7, -1) 270° clockwise (= 90° CCW) about the origin. Image = ? Answer: _____

12. Rotate (2, 8) 90° counterclockwise about the origin. Image = ? Answer: _____

14. Rotate (5, 0) 90° counterclockwise about the origin. Image = ? Answer: _____

Directions: Solve each problem. Find the square on the Pixel Grid page showing your exact answer and color it with the picture color. Answer not there? Re-check your work - the picture is your auto-grade!

PICTURE 3 - MIXED RIGID TRANSFORMATIONS

Sequences of two reflections and/or rotations

VOCABULARY ANCHOR	VISUAL RULE REMINDERS
sequence - composition - rigid motion	Do step 1 first, then apply step 2 to the RESULT Track signs carefully at each step Rigid motions preserve length & angle Final image is always congruent to preimage

1. Start at (2, 3). First reflect over the x-axis, then rotate 90° CCW. Final image = ? Answer: _____

3. Start at (1, -2). First rotate 90° CW, then reflect over the x-axis. Final image = ? Answer: _____

5. Start at (-1, 4). First reflect over $y = x$, then rotate 90° CW. Final image = ? Answer: _____

7. Start at (2, -6). First reflect over the y-axis, then reflect over the x-axis. Final image = ? Answer: _____

9. Start at (4, -1). First rotate 90° CCW, then reflect over $y = x$. Final image = ? Answer: _____

11. Start at (-2, 7). First reflect over $y = -x$, then rotate 90° CCW. Final image = ? Answer: _____
2. Start at (-4, 1). First reflect over the y-axis, then rotate 180°. Final image = ? Answer: _____

4. Start at (3, 3). First rotate 180°, then rotate 90° CCW. Final image = ? Answer: _____

6. Start at (5, 2). First rotate 90° CCW, then reflect over the y-axis. Final image = ? Answer: _____

8. Start at (-3, -4). First rotate 90° CW, then reflect over $y = x$. Final image = ? Answer: _____

10. Start at (0, 5). First rotate 90° CW, then rotate 180°. Final image = ? Answer: _____

12. Start at (6, -3). First rotate 180°, then reflect over $y = x$. Final image = ? Answer: _____

Directions: Solve each problem. Find the square on the Pixel Grid page showing your exact answer and color it with the picture color. Answer not there? Re-check your work - the picture is your auto-grade!

TEACHER PROGRESS DASHBOARD

Individual + whole-class tracking

STUDENT TRACKER

Activity	Skill	# Items	Pixels placed	Self-check?	Date	Mastery
Picture 1	Reflections	14	/ 14	Y / N		1 2 3 4
Picture 2	Rotations	15	/ 15	Y / N		1 2 3 4
Picture 3	Mixed Rigid Transformations	12	/ 12	Y / N		1 2 3 4
Picture 4	Identifying Transformations	10	/ 10	Y / N		1 2 3 4

WHOLE-CLASS MASTERY GRID (mastery = 1, approaching = 0.5)

Student	P1	P2	P3	P4	Notes

WHAT'S INSIDE THE FULL RESOURCE

A compact look at the complete 24-page Transformations on the Coordinate Plane Pixel Art Bundle

GRADES

7–9

PROBLEMS

51

MYSTERY PICTURES

4

STANDARDS

8.G.A.1–8.G.A.3

STUDENT-FACING ACTIVITIES

- Picture 1 — Reflections • 14 problems
- Picture 2 — Rotations • 15 problems
- Picture 3 — Mixed Rigid Transformations • 12 problems
- Picture 4 — Identifying Transformations • 10 problems
- Each activity includes a student problem sheet and pixel reveal grid.

SUPPORT + REFERENCE

- Teacher Guide & self-checking directions
- ELL Support Hub with sentence frames + categorization
- English vocabulary cards with visual icons
- Printable vocabulary & transformation-rule reference

TEACHER + ANSWER SUPPORT

- Completed mystery-picture answer keys
- Worked solutions for reteaching and review
- Teacher Progress Dashboard with individual + whole-class tracking
- Final review / feedback page

PREVIEW SAMPLE

Selected full pages are shown for product review. The complete resource contains the sections listed above.
This preview is for viewing only and is not intended for classroom use or redistribution.