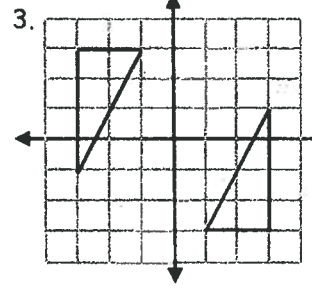
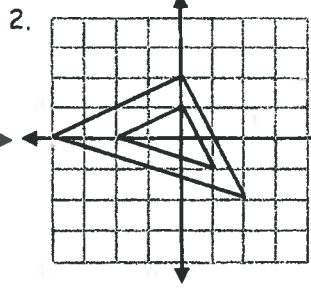
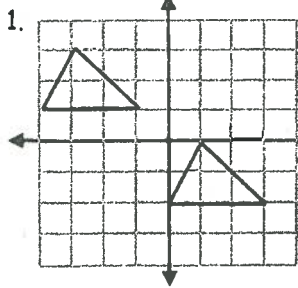
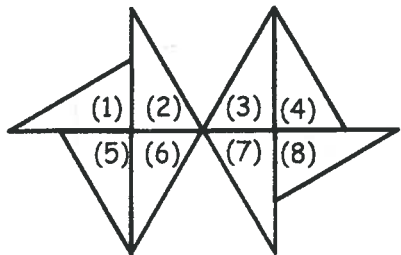


Students can identify transformations based on a diagram.

Identify the type of transformation illustrated by each of the following. [1 pt. ea.]



- | | |
|----|-------------|
| 1. | Translation |
| 2. | Dilation |
| 3. | Rotation |



4. $\Delta(7)$ to $\Delta(8)$
 5. $\Delta(2)$ to $\Delta(4)$
 6. $\Delta(2)$ to $\Delta(6)$

- | | |
|----|-------------|
| 4. | Rotation |
| 5. | Translation |
| 6. | Reflection |

Students can explain the movement of points for a given transformation.

For each of the following transformations, write a complete sentence to describe how each point would move. [4 pts. ea.]

7. R_y All points are moved perpendicularly across the y-axis to a point the same distance on the other side. 4
8. $D_{1,3}$ All points are moved 3 times the distance from A in the same direction. 4
9. $T:(x,y) \rightarrow (x-3,y+4)$ All points are moved 3 units to the left and 4 units up. 4

Given a translation moves point (-9, 4) to point (-3, 2). [2 pts. ea.]

- 2 11. Complete the translation rule that describes the movement above. $T:(x,y) \rightarrow (x+6)y-2)$
- 2 12. Find the pre-image of (1, 3).
 $x+6=1$ $y-2=3$ $(-5, 5)$
 $x=-5$ $y=5$
- 2 13. Find the image of (-4, 0).
 $-4+6=2$ $(2, -2)$
 $0-2=-2$

You may use the graph to plot your points if you wish. [2 pts. ea.]

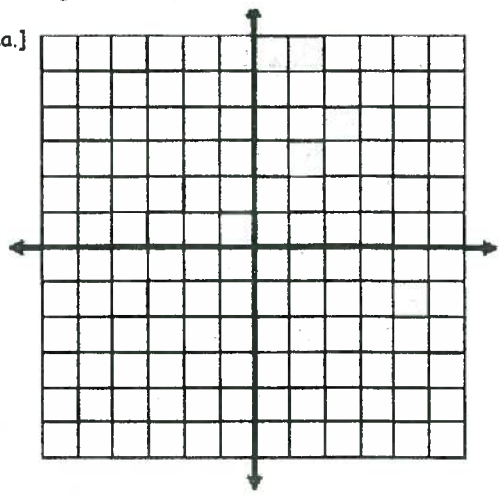
- Reflect point (-2, 4) across each stated line
- 2 14. x-axis $(-2, -4)$
- 2 15. y-axis $(2, 4)$
- 2 16. $y=x$ $(4, -2)$

Rotate point (-3, 4) using the given degree about (0, 0)

- 2 17. 90° $(-4, -3)$
- 2 18. -90° $(4, 3)$
- 2 19. half-turn $(3, -4)$

Dilate point (4, -2) using the given scale factor from (0, 0)

- 2 20. $\frac{1}{2}$ $(2, -1)$
- 2 21. -1 $(-4, 2)$
- 2 22. 3 $(12, -6)$



6

12

6

18

Use the diagram to determine which lettered point represents each image. [1 pt. ea.]

23. $R_x: _ \rightarrow E$

24. $R_y: D \rightarrow _$

25. $R_{0, -90}: T \rightarrow _$

26. $D_{0, -2}: C \rightarrow _$

27. $H_0: R \rightarrow _$

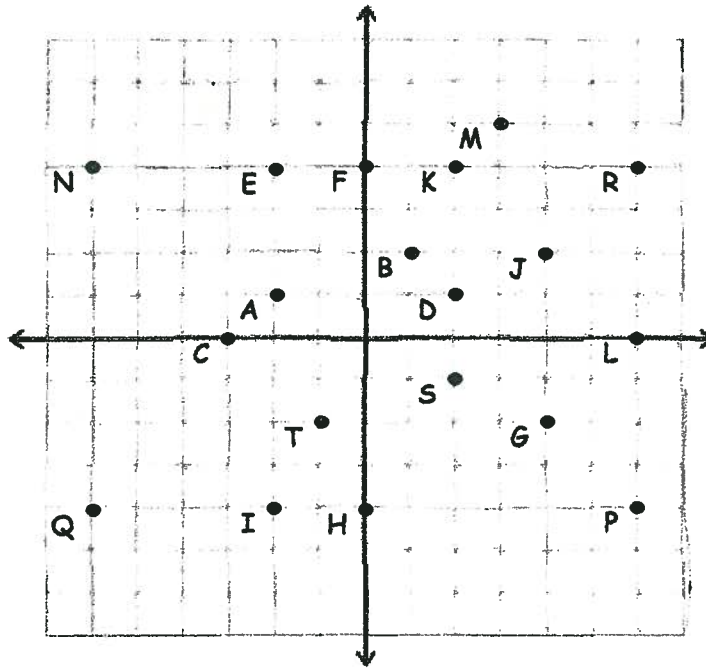
28. $R_{0, 90}: G \rightarrow _$

29. $D_{G, 1/3}: A \rightarrow _$

30. $R_{y=x}: D \rightarrow _$

31. $D_{0, 2}: _ \rightarrow K$

32. $T: (x, y) \rightarrow (x - 4, y - 1)$, then $L \rightarrow _$



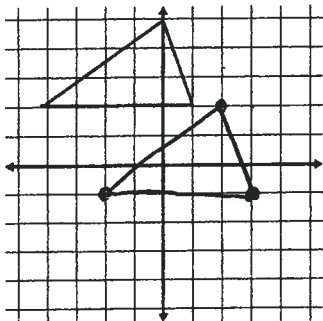
23.	I
24.	A
25.	S
26.	L
27.	Q
28.	K
29.	S
30.	B
31.	B
32.	S

10

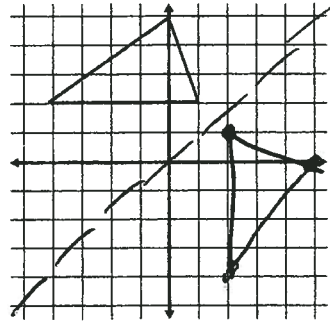
Students can draw an image under each transformation.

Using each given shape, graph each transformation or dilation. [3 pts. ea.]

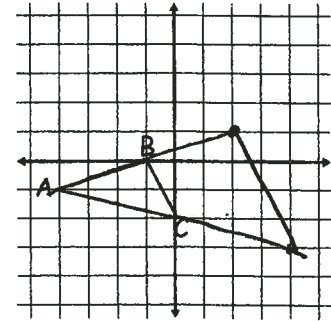
3 33. $T: (x, y) \rightarrow (x + 2, y - 3)$



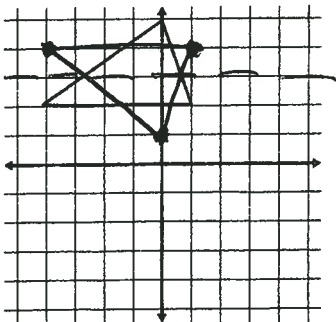
3 34. reflection across the line $y = x$



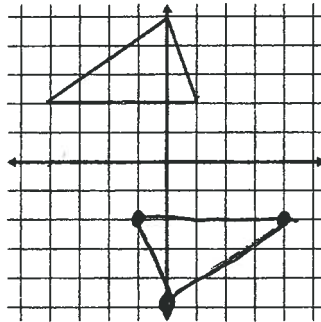
3 35. $D_{A, 2}$



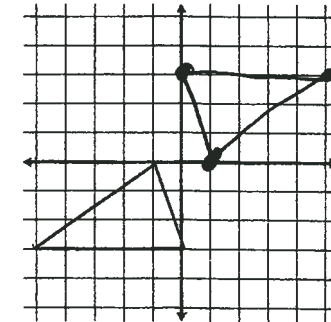
3 36. reflection across the line $y=3$



3 37. $D_{0, -1}$



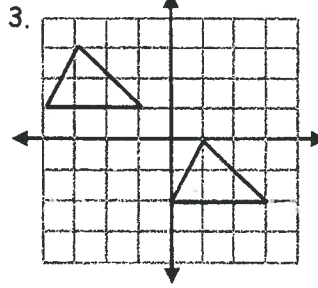
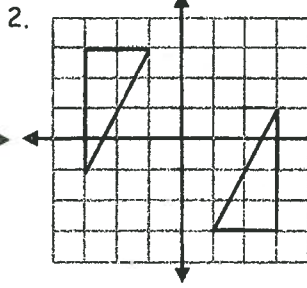
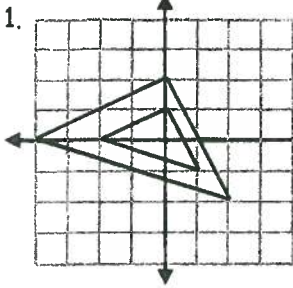
3 38. half turn about (0,0)



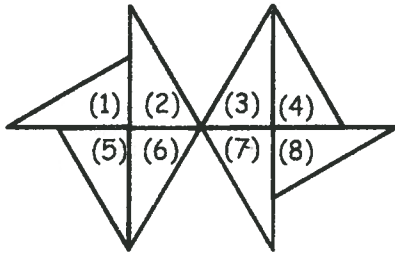
18

Students can identify transformations based on a diagram.

Identify the type of transformation illustrated by each of the following. [1 pt. ea.]



1.	Dilation
2.	Rotation/Half-turn
3.	Translation



- 4. $\Delta(2)$ to $\Delta(6)$
- 5. $\Delta(7)$ to $\Delta(8)$
- 6. $\Delta(2)$ to $\Delta(4)$

4.	Reflection
5.	Rotation
6.	Translation

Students can explain the movement of points for a given transformation.

For each of the following transformations, write a complete sentence to describe how each point would move. [4 pts. ea.]

- 7. $T: (x, y) \rightarrow (x+4, y-3)$ All points are moved 4 units to the right and 3 units down.
- 8. R_y All points are moved perpendicular across the y-axis to a point the same distance on the other side.
- 9. $D_{A,3}$ All points are moved 3 times the distance from A in the same direction.

Given a translation moves point (4, -9) to point (2, -3). [2 pts. ea.]

11. Complete the translation rule that describes the movement above. $T: (x, y) \rightarrow (x-2, y+6)$

12. Find the pre-image of (3, 1). $X-2=3$ $Y+6=1$
 $X=5$ $Y=-5$ (5, -5)

13. Find the image of (0, -4). $0-2=-2$ $-4+6=2$
(-2, 2)

You may use the graph to plot your points if you wish. [2 pts. ea.]

Reflect point (-1, 5) across each stated line

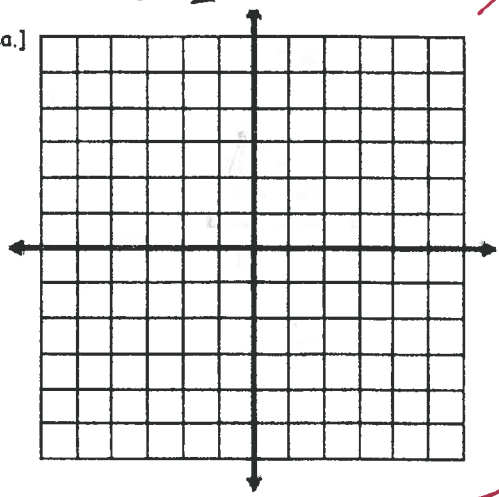
- 14. x-axis (-1, -5)
- 15. y-axis (1, 5)
- 16. $y=x$ (5, -1)

Rotate point (4, -3) using the given degree about (0,0)

- 17. 90° (3, 4)
- 18. -90° (-3, -4)
- 19. half-turn (-4, 3)

Dilate point (-2, 4) using the given scale factor from (0,0)

- 20. $\frac{1}{2}$ (-1, 2)
- 21. -1 (2, -4)
- 22. 3 (-6, 12)



Use the diagram to determine which lettered point represents each image. [1 pt. ea.]

23. $R_x: I \rightarrow$ ___

24. $R_y: \text{___} \rightarrow D$

25. $R_{0,-90}: A \rightarrow$ ___

26. $D_{0,-2}: C \rightarrow$ ___

27. $H_0: N \rightarrow$ ___

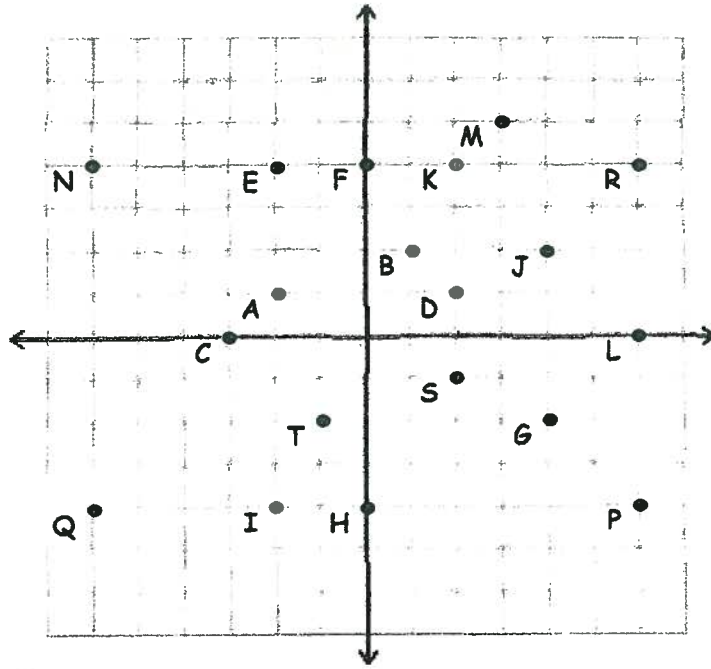
28. $R_{0,90}: G \rightarrow$ ___

29. $D_{6,1/3}: A \rightarrow$ ___

30. $R_{y=x}: J \rightarrow$ ___

31. $D_{0,2}: \text{___} \rightarrow K$

32. $T: (x, y) \rightarrow (x - 3, y - 1)$, then $M \rightarrow$ ___



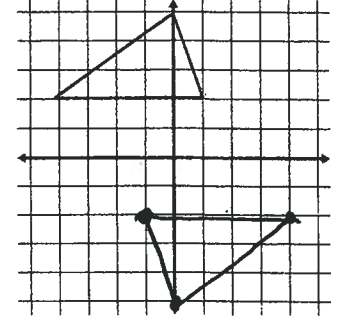
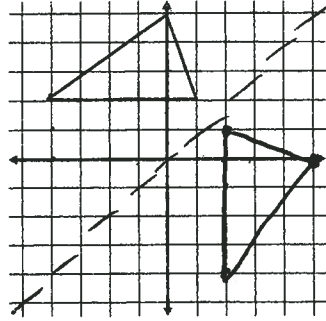
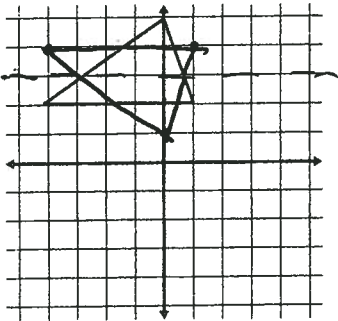
23.	E
24.	A
25.	B
26.	L
27.	P
28.	K
29.	S
30.	K
31.	B
32.	F

10

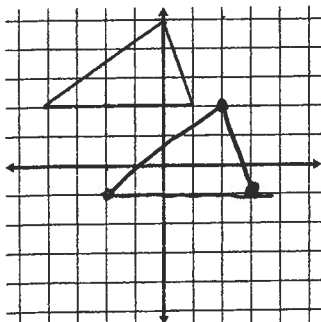
Students can draw an image under each transformation.

Using each given shape, graph each transformation or dilation. [3 pts. ea.]

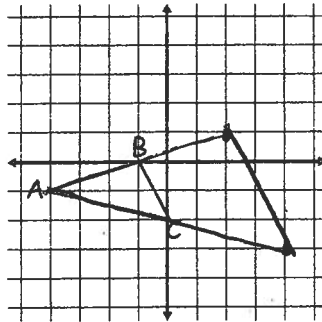
- 3 33. reflection across the line $y=3$ 3 34. reflection across the line $y=x$ 3 35. half turn about $(0,0)$



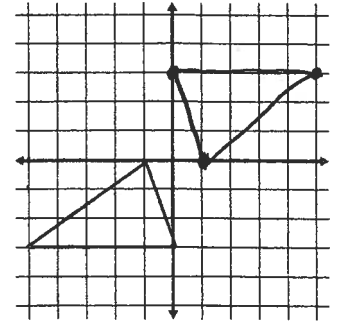
3 36. $T: (x, y) \rightarrow (x + 2, y - 3)$



3 37. $D_{A,2}$



3 38. $D_{0,-1}$



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