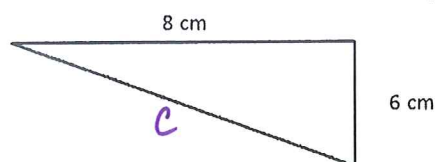


The Pythagorean Theorem Review

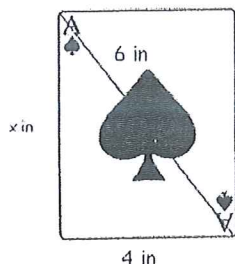
Name: Key Date: _____

1. What is the value of the hypotenuse in the triangle below?



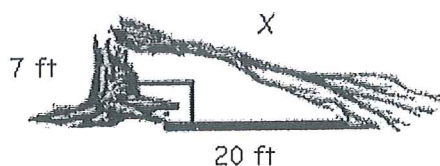
$$c = 10 \text{ cm}$$

2. Betty measured the diagonal length of a playing card to be 6 inches. The short side of the card is 4 inches. What is the length of the long side of the playing card?



$$\text{About } 4.8 \text{ in.}$$

3. Before the owner of a tree-removal service will give an estimate to remove a tree, he must first know the length of the fallen part of the tree (x). Find the length of the fallen part of the tree, ~~what is the length of the fallen part of the tree?~~

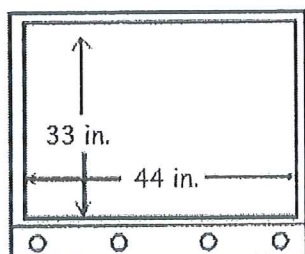


$$\text{About } 21.2 \text{ ft.}$$

4. Jalen jogged 10 miles due north, then turned due west and jogged 5 more miles. How many miles is Jalen from his starting point? (shortest distance)

$$\text{About } 11.2 \text{ miles}$$

- 5.

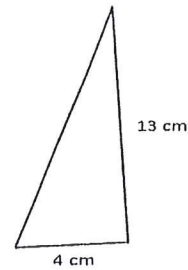


What is the diagonal measurement of the TV screen shown in the figure above?

$$55 \text{ inches}$$

6. Find the length of the unknown side in the right triangle.

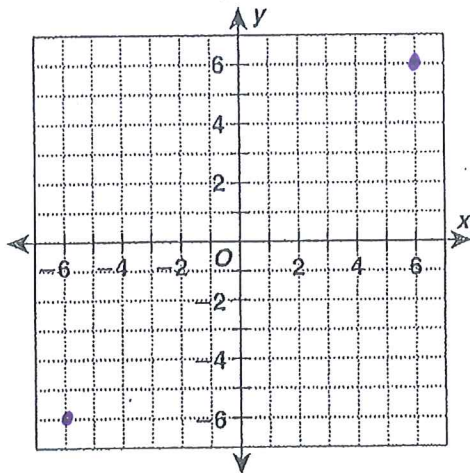
About 13.6 cm



7. An isosceles right triangle has 6 cm legs. Find the length of the hypotenuse.

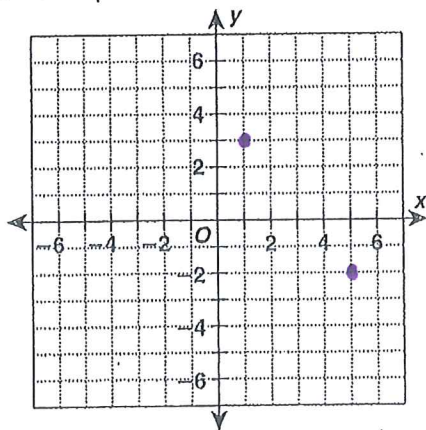
About 8.5 cm

8. On the graph below, plot the points $(-6, -6)$ and $(6, 6)$. Find the distance between the two points.



About 16.97 units

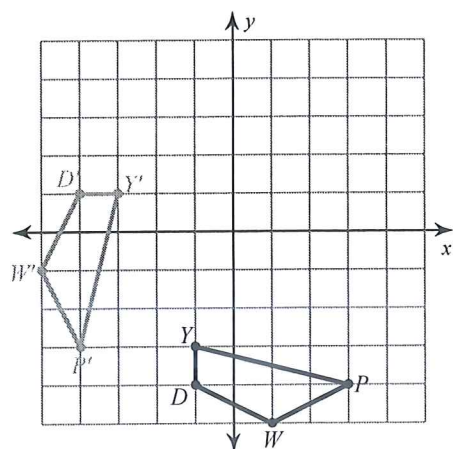
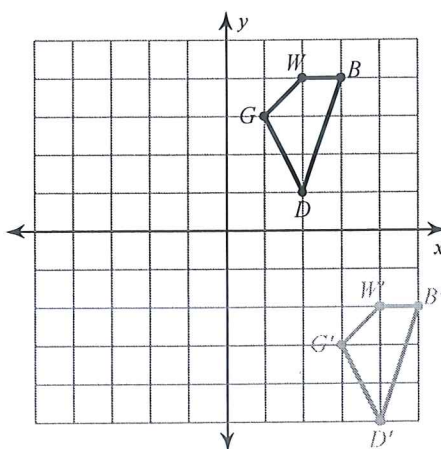
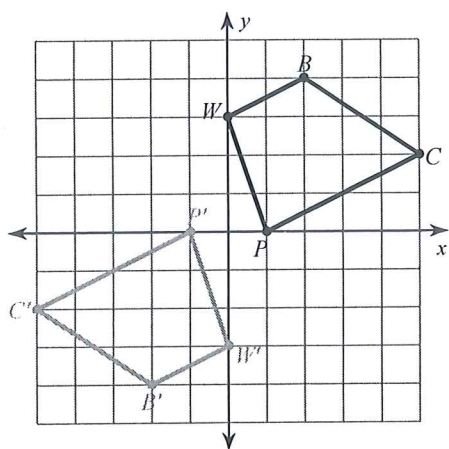
9. On the graph below, plot the points $(5, -2)$ and $(1, 3)$. Find the distance between the two points.



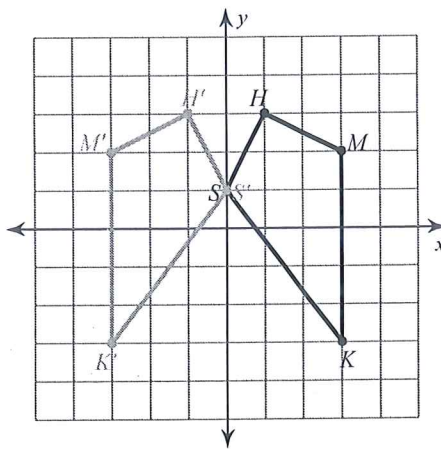
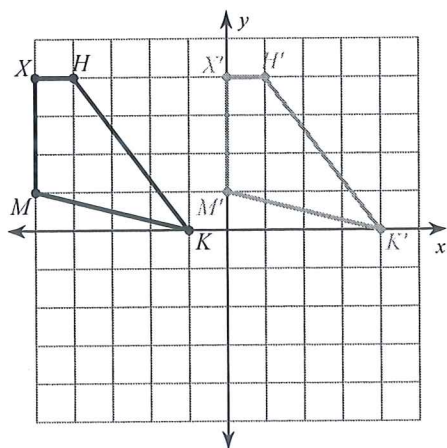
About 6.4 units

Transformations Review

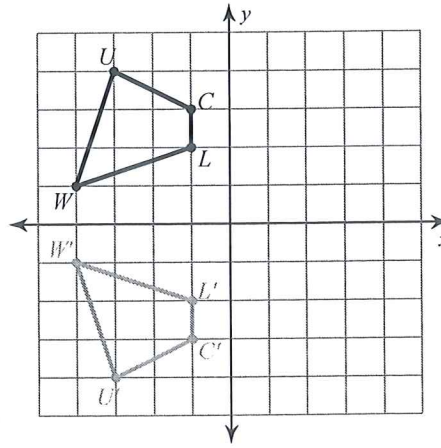
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Graph the image of the figure using the transformation given.1) rotation 90° clockwise about the origin2) translation: $(x, y) \rightarrow (x + 2, y - 6)$ 3) rotation 180° about the origin

4) reflection across the y-axis

5) translation: $(x, y) \rightarrow (x + 5, y)$ 

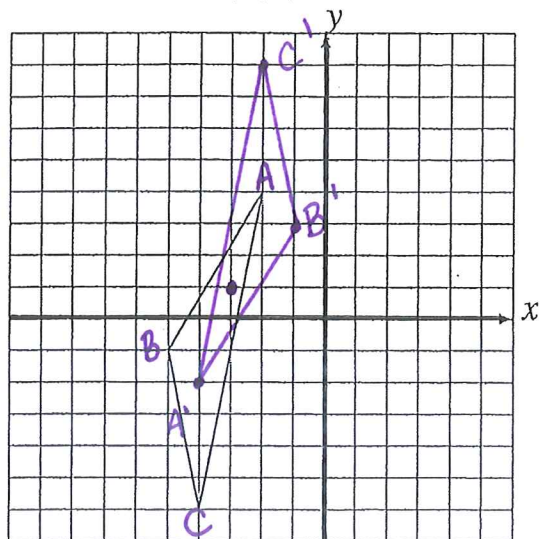
6) reflection across the x-axis



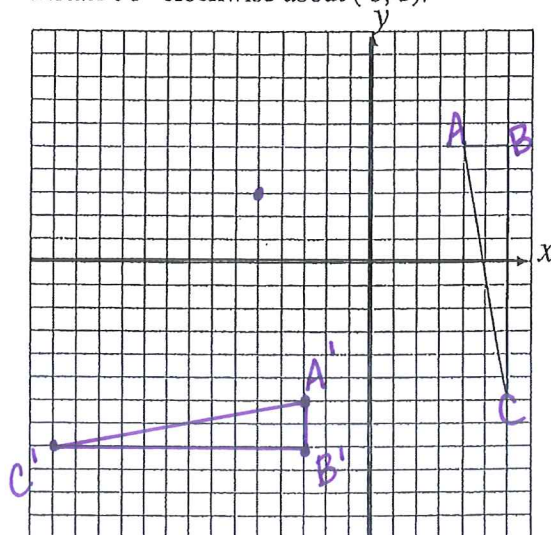
Find the coordinates of the vertices of each figure after the given transformation.

- 7) translation: $(x, y) \rightarrow (x + 1, y - 1)$
 $J(-3, -3), H(-4, -2), I(-2, 3), Z(-1, 2)$
 $J'(-2, -4), H'(-3, -3), I'(-1, 2), Z'(0, 1)$
- 9) translation: $(x, y) \rightarrow (x + 2, y)$
 $V(1, -3), E(2, -2), Q(3, -4), P(2, -5)$
 $V'(3, -3), E'(4, -2), Q'(5, -4), P'(4, -5)$
- 11) rotation 180° about the origin
 $P(3, -4), X(3, -2), M(5, -2)$
 $P'(-3, 4), X'(-3, 2), M'(-5, 2)$
- 13) reflection across the x-axis
 $H(-4, 3), X(-2, 5), F(-2, 2)$
 $X'(-2, -5), F'(-2, -2), H'(-4, -3)$
- 15) rotation 90° clockwise about the origin
 $T(-3, 1), I(-3, 2), N(-1, 4), B(1, 2)$
 $T'(1, 3), I'(2, 3), N'(4, 1), B'(2, -1)$
- 8) reflection across the y-axis
 $U(-5, 1), M(-2, 5), K(-3, 0)$
 $M'(2, 5), K'(3, 0), U'(5, 1)$
- 10) rotation 180° about the origin
 $Z(1, -5), P(2, -3), S(5, -3)$
 $Z'(-1, 5), P'(-2, 3), S'(-5, 3)$
- 12) reflection across the x-axis
 $N(3, -2), T(3, -1), J(5, -3)$
 $T'(3, 1), J'(5, 3), N'(3, 2)$
- 14) rotation 90° counterclockwise about the origin
 $U(0, 1), J(-2, 4), B(0, 5), R(3, 4)$
 $U'(-1, 0), J'(-4, -2), B'(-5, 0), R'(-4, 3)$
- 16) translation: $(x, y) \rightarrow (x + 1, y - 3)$
 $A(-3, -1), U(-4, 1), M(-3, 2), B(0, 3)$
 $A'(-2, -4), U'(-3, -2), M'(-2, -1), B'(1, 0)$

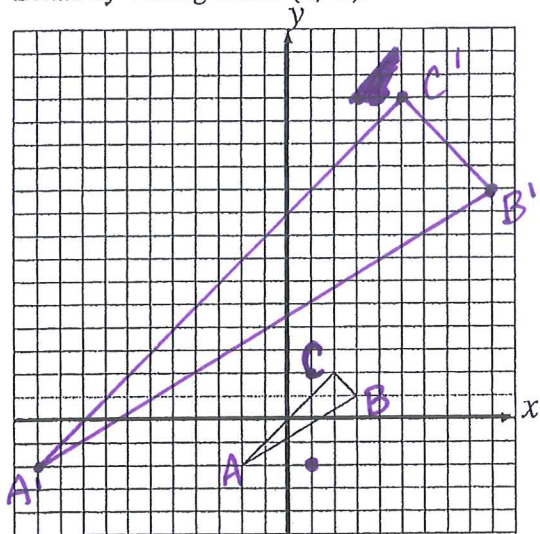
Rotate 180° about $(-3, 1)$.



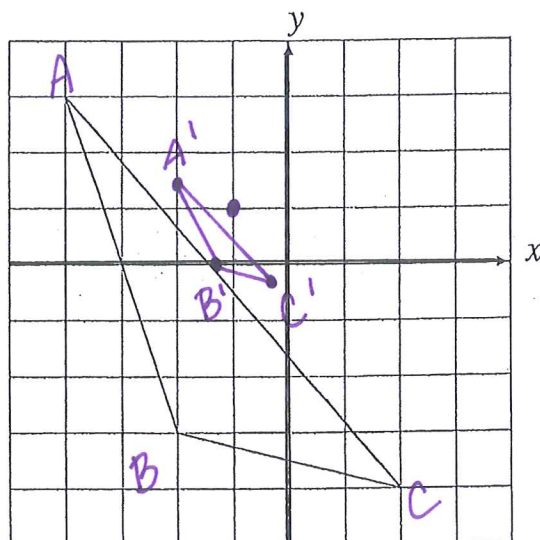
Rotate 90° clockwise about $(-5, 3)$.



Dilate by 4 using center $(1, -2)$.



Dilate by $\frac{1}{4}$ using center $(-1, 1)$.



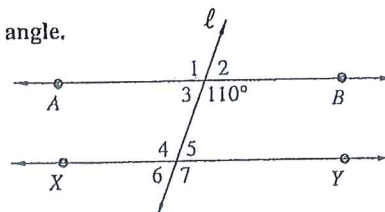
NAME Key DATE _____

Practice 71

Skills and Applications of Lesson 6-4

In the figure at the right, $\overleftrightarrow{AB} \parallel \overleftrightarrow{XY}$. Find the measure of each angle.

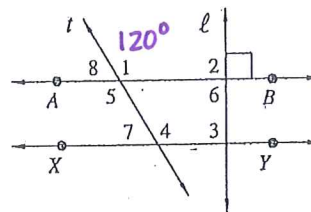
- | | |
|---|---|
| 1. $\angle 1$ <u>110°</u> | 2. $\angle 2$ <u>70°</u> |
| 3. $\angle 3$ <u>70°</u> | 4. $\angle 4$ <u>110°</u> |
| 5. $\angle 5$ <u>70°</u> | 6. $\angle 6$ <u>70°</u> |



7. Lines \overleftrightarrow{MN} and \overleftrightarrow{AB} intersect at Q . Also, $\overleftrightarrow{MN} \perp \overleftrightarrow{AB}$. Find the measures of $\angle MQA$, $\angle NQA$, $\angle MQB$, and $\angle NQB$. All 90°

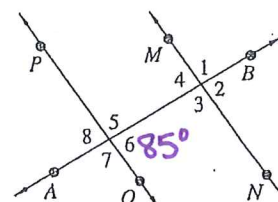
In the figure at the right, $\overleftrightarrow{AB} \parallel \overleftrightarrow{XY}$, and $m\angle 1 = 120^\circ$. Tell whether each statement is true or false.

- | | |
|--------------------------------------|---|
| 8. $m\angle 2 = 90^\circ$ <u>F</u> | 9. $\overleftrightarrow{XY} \perp l$ <u>T</u> |
| 10. $m\angle 3 = 60^\circ$ <u>F</u> | 11. $m\angle 4 = 120^\circ$ <u>T</u> |
| 12. $m\angle 5 = 120^\circ$ <u>T</u> | 13. $m\angle 8 = 120^\circ$ <u>F</u> |
| 14. $l \parallel t$ <u>F</u> | 15. $m\angle 7 = 60^\circ$ <u>T</u> |
| 16. $l \perp t$ <u>F</u> | 17. $m\angle 6 = 120^\circ$ <u>F</u> |

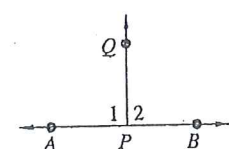


In the figure at the right, $\overleftrightarrow{MN} \parallel \overleftrightarrow{PQ}$ and the measure of $\angle 6$ is 85° . Find the measure of each angle.

- | | | |
|---|---|---|
| 18. $\angle 7$ <u>95°</u> | 19. $\angle 3$ <u>95°</u> | 20. $\angle 2$ <u>85°</u> |
| 21. $\angle 8$ <u>85°</u> | 22. $\angle 5$ <u>95°</u> | 23. $\angle 4$ <u>85°</u> |



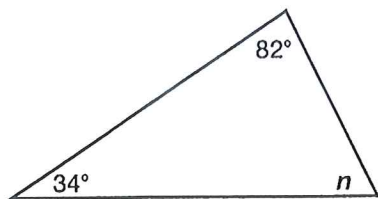
24. In the figure at the right, $m\angle 1 = 89^\circ$ and $m\angle 2 = 91^\circ$. Is \overleftrightarrow{PQ} perpendicular to \overleftrightarrow{AB} ? No



Triangles and Angle Sums

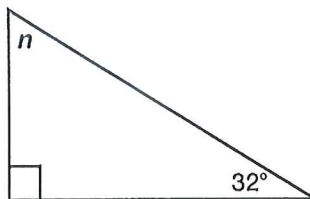
~~Classify each triangle by its sides and by its angles.~~
Then find the degree measure of $\angle n$ in each triangle.

1.



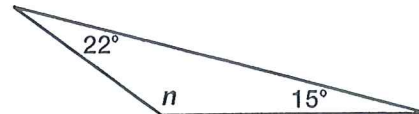
$\angle n = 64^\circ$

2.



$\angle n = 58^\circ$

3.



$\angle n = 143^\circ$

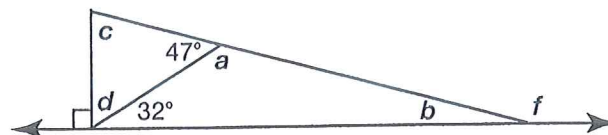
Use the diagram to find each angle measure.

4. $a = 133^\circ$

5. $b = 15^\circ$

6. $d = 58^\circ$

7. $c = 75^\circ$



Draw an example of each.

~~8.~~ a triangle that is both right and isosceles

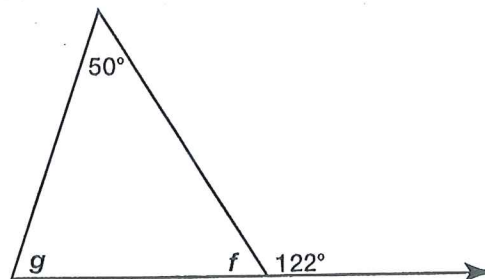
~~9.~~ a triangle that is both acute and equilateral

~~10.~~ a triangle that is both obtuse and isosceles

Algebra • Equations Use the diagram. Write and solve an equation to find each angle measure.

11. $\angle f = 180^\circ - 122^\circ = 58^\circ$

12. $\angle g = 180^\circ - 58^\circ - 50^\circ = 72^\circ$



Test Prep

13. Two angles in a triangle measure 34° and 61° . What is the measure of the third angle?

A 75°

C 95°

B 85°

D Cannot be determined.

14. Two angles form a straight angle. One angle measures 75° . Describe how to find the measure of the other angle.

Since a straight angle has a measure of 180° , subtract 75° from 180° to get the remaining angle measure of 105° .

Use with text pages 364–366.