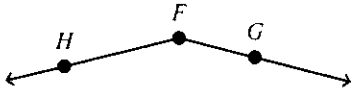
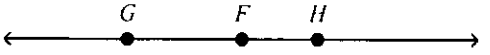
Practice Geometry Final Exam S1

1 Draw and label a pair of opposite rays $\overrightarrow{FG}$ and $\overrightarrow{FH}$.

A



B



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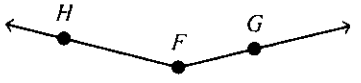

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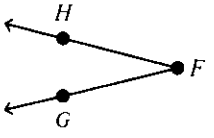
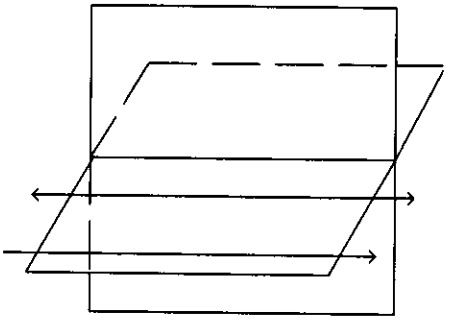
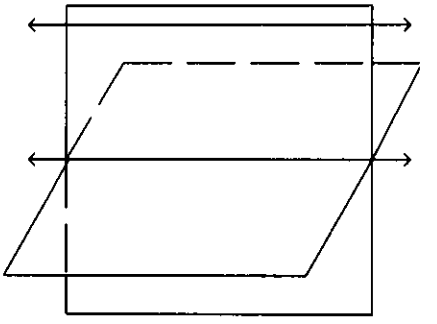


2 Sketch a figure that shows two coplanar lines that do not intersect, but one of the lines is the intersection of two planes.

A



B



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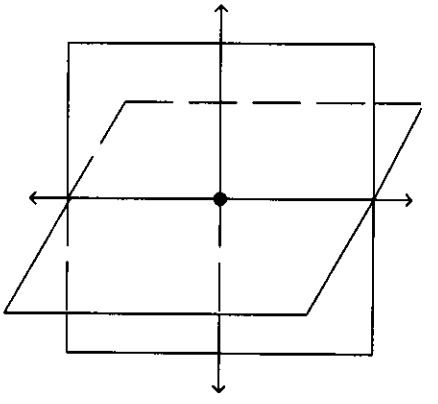

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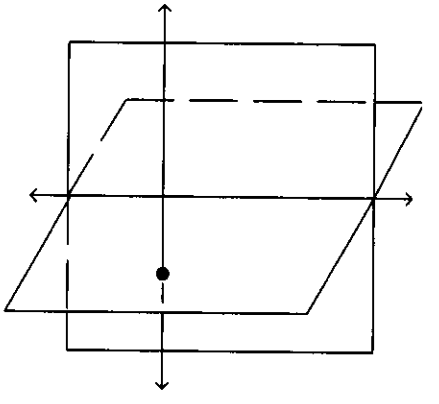
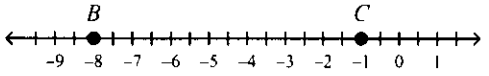
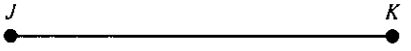


3 Find the length of $\overline{BC}$.

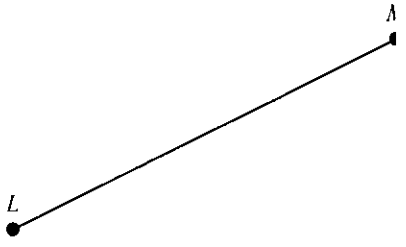


A $BC = -7$
B $BC = -9$
C $BC = 7$
D $BC = 8$

4 Find the best sketch, drawing, or construction of a segment congruent to $\overline{JK}$.



A



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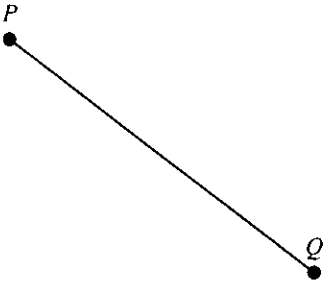

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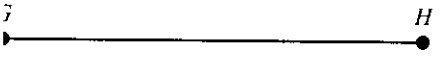
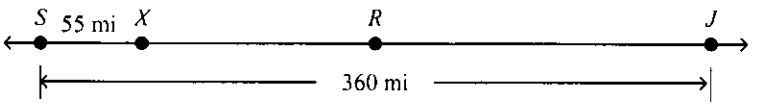


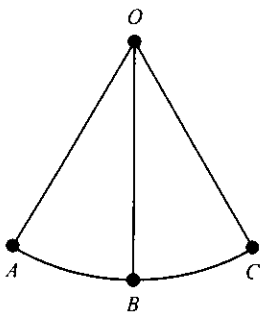
D

5 The map shows a linear section of Highway 35. Today, the Ybarras plan to drive the 360 miles from Springfield to Junction City. They will stop for lunch in Roseburg, which is at the midpoint of the trip. If they have already traveled 55 miles this morning, how much farther must they travel before they stop for lunch?



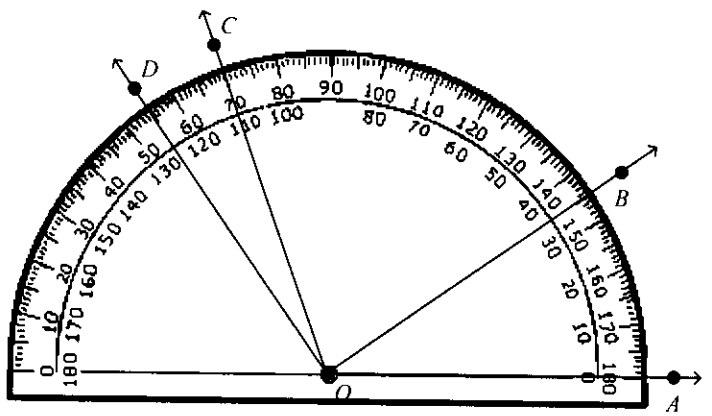
A 125 mi
B 145 mi
C 180 mi
D 305 mi

6 The tip of a pendulum at rest sits at point B. During an experiment, a physics student sets the pendulum in motion. The tip of the pendulum swings back and forth along part of a circular path from point A to point C. During each swing the tip passes through point B. Name all the angles in the diagram.



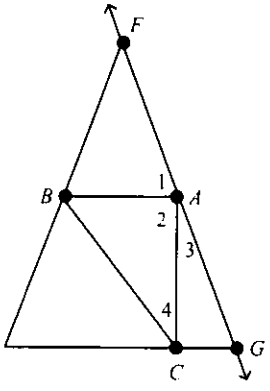
A $\angle AOB, \angle BOC$
B $\angle AOB, \angle COB, \angle AOC$
C $\angle AOB, \angle BOA, \angle COB, \angle BOC$
D $\angle OAB, \angle OBC, \angle OCB$

7 Find the measure of $\angle BOD$. Then, classify the angle as acute, right, or obtuse.



A $m\angle BOD = 125°$; obtuse
B $m\angle BOD = 35°$; acute
C $m\angle BOD = 90°$; right
D $m\angle BOD = 160°$; obtuse

8 Tell whether $\angle 1$ and $\angle 2$ are only adjacent, adjacent and form a linear pair, or not adjacent.

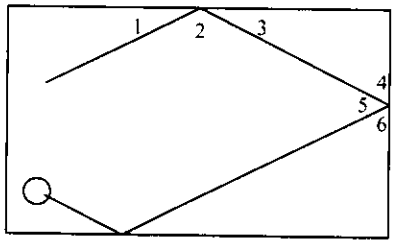


A only adjacent
B adjacent and form a linear pair
C not adjacent

9 Find the measure of the complement of $\angle M$, where $m\angle M = 31.1°$

A 58.9°
B 148.9°
C 31.1°
D 121.1°

10 A billiard ball bounces off the sides of a rectangular billiards table in such a way that $\angle 1 \cong \angle 3$, $\angle 4 \cong \angle 6$, and $\angle 3$ and $\angle 4$ are complementary. If $m\angle 1 = 26.5°$, find $m\angle 3$, $m\angle 4$, and $m\angle 5$.

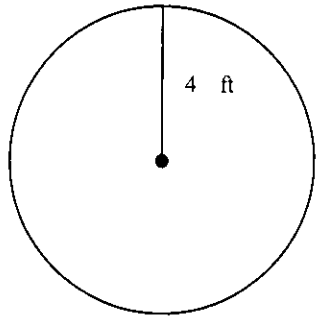


A $m\angle 3 = 26.5°$; $m\angle 4 = 63.5°$; $m\angle 5 = 63.5°$
B $m\angle 3 = 26.5°$; $m\angle 4 = 63.5°$; $m\angle 5 = 53°$
C $m\angle 3 = 63.5°$; $m\angle 4 = 26.5°$; $m\angle 5 = 53°$
D $m\angle 3 = 26.5°$; $m\angle 4 = 153.5°$; $m\angle 5 = 26.5°$

11 The rectangles on a quilt are 2 in. wide and 3 in. long. The perimeter of each rectangle is made by a pattern of red thread. If there are 30 rectangles in the quilt, how much red thread will be needed?

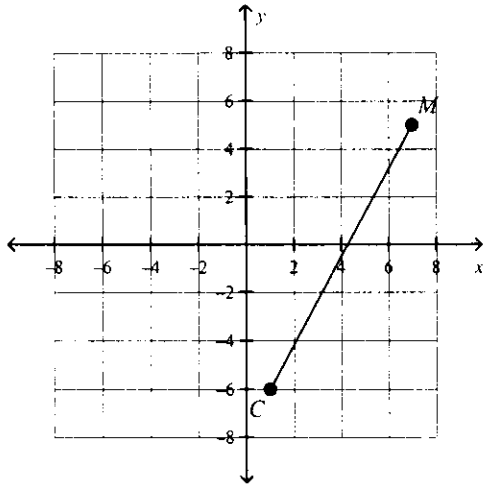
A 10 in.
B 150 in.
C 180 in.
D 300 in.

12 Find the circumference and area of the circle. Use 3.14 for π, and round your answer to the nearest tenth.



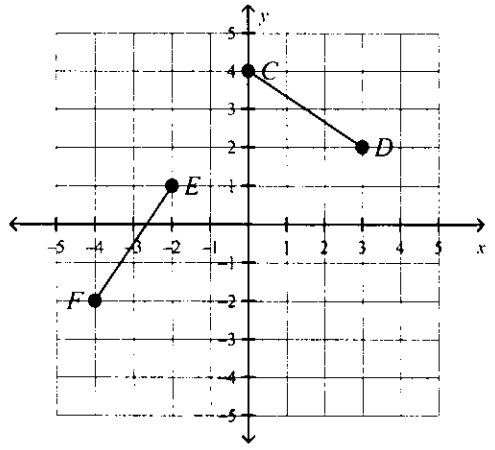
A $C = 201.0$ ft; $A = 50.2$ ft^2
B $C = 50.2$ ft; $A = 25.1$ ft^2
C $C = 25.1$ ft; $A = 50.2$ ft^2
D $C = 50.2$ ft; $A = 201.0$ ft^2

13 Find the coordinates of the midpoint of $\overline{CM}$ with endpoints $C(1, -6)$ and $M(7, 5)$.



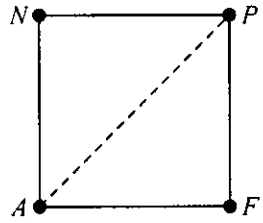
A (3, –1)
B (8, –1)
C $(4, -\frac{1}{2})$
D $(4\frac{1}{2}, \frac{1}{2})$

14 Find CD and EF. Then determine if $\overline{CD} \cong \overline{EF}$.



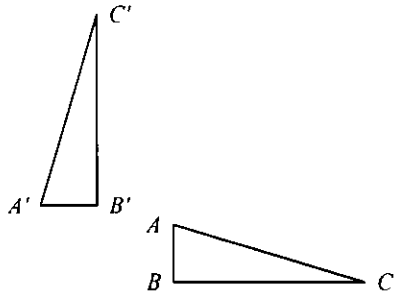
A $CD = \sqrt{13}, EF = \sqrt{13}, \overline{CD} \cong \overline{EF}$
B $CD = \sqrt{5}, EF = \sqrt{13}, \overline{CD} \ncong \overline{EF}$
C $CD = \sqrt{13}, EF = 3\sqrt{5}, \overline{CD} \ncong \overline{EF}$
D $CD = \sqrt{5}, EF = \sqrt{5}, \overline{CD} \cong \overline{EF}$

15 There are four fruit trees in the corners of a square backyard with 30-ft sides. What is the distance between the apple tree A and the plum tree P to the nearest tenth?



A 42.4 ft
B 42.3 ft
C 30.0 ft
D 30.3 ft

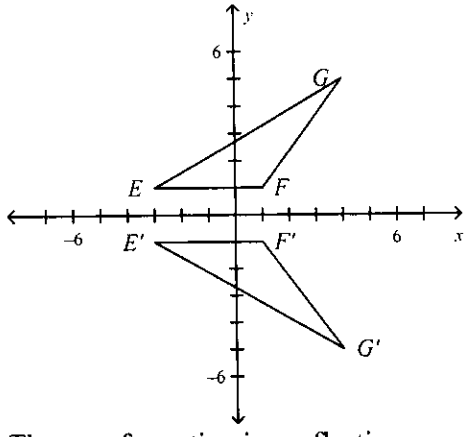
16 Identify the transformation. Then use arrow notation to describe the transformation.



A The transformation is a 90° rotation.
$ABC \rightarrow A'B'C'$
B The transformation is a 45° rotation.
$ABC \rightarrow A'B'C'$
C The transformation is a reflection.
$ABC \rightarrow A'B'C'$
D The transformation is a translation.
$ABC \rightarrow A'B'C'$

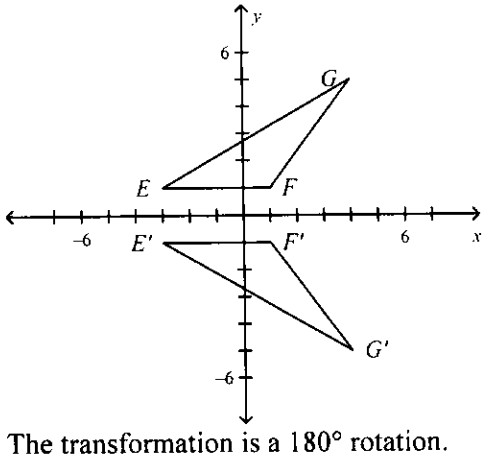
17 A figure has vertices at $E(-3, 1)$, $F(1, 1)$, and $G(4, 5)$. After a transformation, the image of the figure has vertices at $E'(-3, -1)$, $F'(1, -1)$, and $G'(4, -5)$. Draw the preimage and image. Then identify the transformation.

A



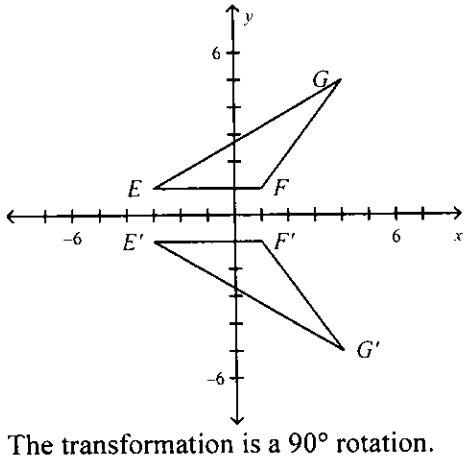
The transformation is a reflection across the x-axis.

B



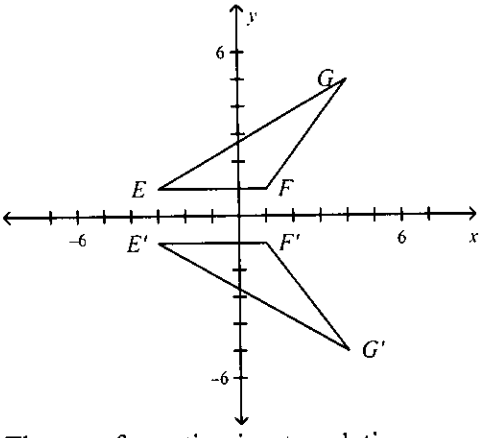
The transformation is a 180° rotation.

C



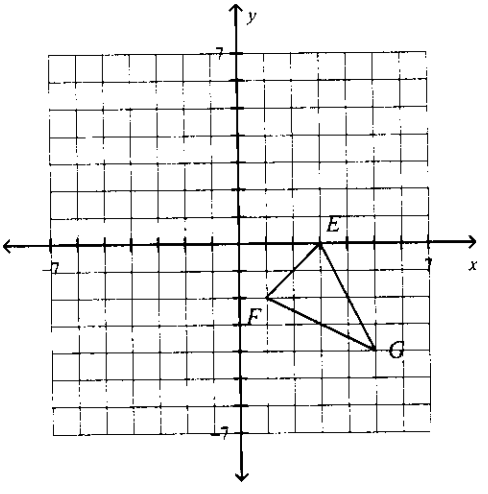
The transformation is a 90° rotation.

D

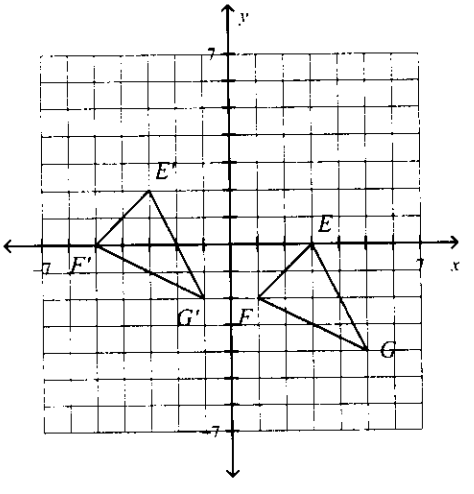


The transformation is a translation.

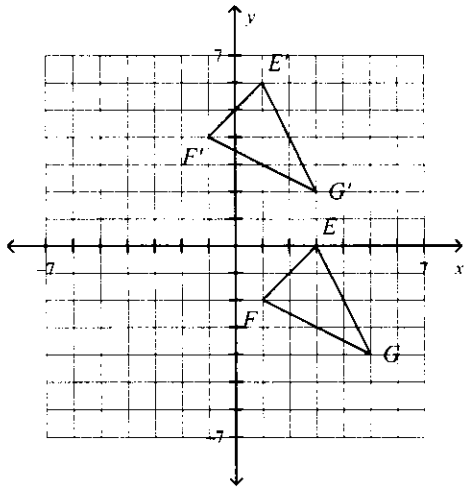
18 Find the coordinates for the image of ΔEFG after the translation $(x, y) \rightarrow (x - 6, y + 2)$. Draw the image.



A



B



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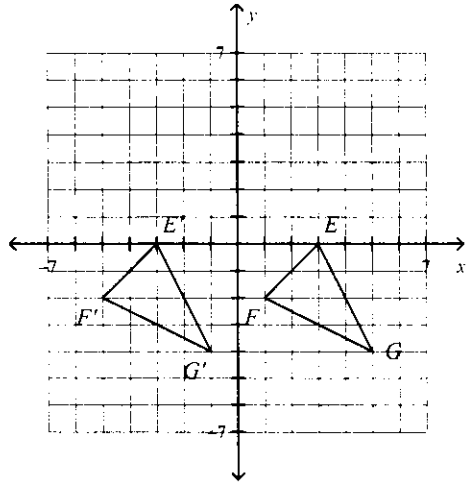
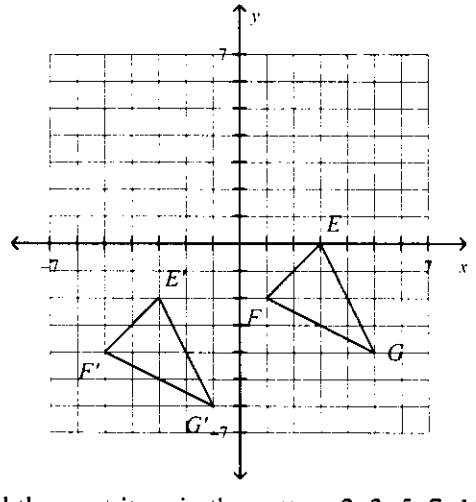


D



19 Find the next item in the pattern 2, 3, 5, 7, 11, ...

A 13
B 12
C 15
D 17

20 Complete the conjecture.
The sum of two odd numbers is _____.

A even
B odd
C sometimes odd, sometimes even
D even most of the time

21 Identify the hypothesis and conclusion of the conditional statement.
If it is raining then it is cloudy.

A Hypothesis: It is raining.
Conclusion: It is cloudy.
B Hypothesis: It is cloudy.
Conclusion: It is raining.
C Hypothesis: Clouds make rain.
Conclusion: Rain does not make clouds.
D Hypothesis: Rain and clouds happen together.
Conclusion: Rain and clouds do not happen together..

22 Write a conditional statement from the statement.
A horse has 4 legs.

A If it has 4 legs then it is a horse.
B Every horse has 4 legs.
C If it is a horse then it has 4 legs.
D It has 4 legs and it is a horse.

23 Determine if the conditional statement is true. If false, give a counterexample. If a figure has four sides, then it is a square.

A True.
B False; A rectangle has four sides, and it is not a square.

24 Write the converse, inverse, and contrapositive of the conditional statement, "If an animal is a bird, then it has two eyes." Find the truth value of each.

A Converse: If an animal is not a bird, then it does not have two eyes.
The converse is false.
Inverse: If an animal does not have two eyes, then it is not a bird.
The inverse is true.
Contrapositive: If an animal is a bird, then it has two eyes.
The contrapositive is true.

B Converse: If an animal has two eyes, then it is a bird.
The converse is false.
Inverse: If an animal is not a bird, then it does not have two eyes.
The inverse is false.
Contrapositive: If an animal does not have two eyes, then it is not a bird.
The contrapositive is true.

C Converse: If an animal does not have two eyes, then it is not a bird.
The converse is true.
Inverse: If an animal is not a bird, then it does not have two eyes.
The inverse is true.
Contrapositive: If an animal has two eyes, then it is a bird.
The contrapositive is false.

D Converse: All birds have two eyes.
The converse is true.
Inverse: All animals have two eyes.
The inverse is true.
Contrapositive: All birds are animals, and animals have two eyes.
The contrapositive is true.

25 What is the truth value of the biconditional formed from the conditional, "If B is the midpoint of A and C, then $AB = BC$." Explain.

A The conditional is true.
The converse, "If $AB = BC$ then B is the midpoint of $\overline{AC}$" is false.
Since the conditional is true but the converse is false, the biconditional is false.

B The conditional is true.
The converse, "If $AB = BC$ then B is the midpoint of $\overline{AC}$" is true.
Since the conditional is true and the converse is true, the biconditional is true.

C The conditional is false.
The converse, "If $AB = BC$ then B is the midpoint of $\overline{AC}$" is false.
Since the conditional is false and the converse is false, the biconditional is true.

D The conditional is false.
The converse, "If $AB = BC$ then B is the midpoint of $\overline{AC}$" is true.
Since the conditional is false and the converse is true, the biconditional is false.

26 A gardener has 26 feet of fencing for a garden. To find the width of the rectangular garden, the gardener uses the formula $P = 2l + 2w$, where P is the perimeter, l is the length, and w is the width of the rectangle. The gardener wants to fence a garden that is 8 feet long. How wide is the garden? Solve the equation for w, and justify each step.

$P = 2l + 2w$	Given equation
$26 = 2(8) + 2w$	[1]
$26 = 16 + 2w$	Simplify.
$\underline{-16} = \underline{-16}$	Subtraction Property of Equality
$10 = 2w$	Simplify.
$\frac{10}{2} = \frac{2w}{2}$	[2]
$5 = w$	Simplify.
$w = 5$	Symmetric Property of Equality

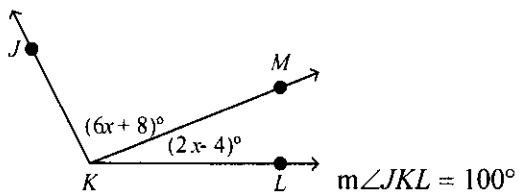
A [1] Substitution Property of Equality
[2] Division Property of Equality
The garden is 5 ft wide.

B [1] Simplify
[2] Division Property of Equality
The garden is 5 ft wide.

C [1] Substitution Property of Equality
[2] Subtraction Property of Equality
The garden is 5 ft wide.

D [1] Subtraction Property of Equality
[2] Simplify
The garden is 5 ft wide.

27 Write a justification for each step.



$m\angle JKL = 100°$

$m\angle JKL = m\angle JKM + m\angle MKL$	[1]
$100° = (6x + 8)° + (2x - 4)°$	Substitution Property of Equality
$100 = 8x + 4$	Simplify.
$96 = 8x$	Subtraction Property of Equality
$12 = x$	[2]
$x = 12$	Symmetric Property of Equality

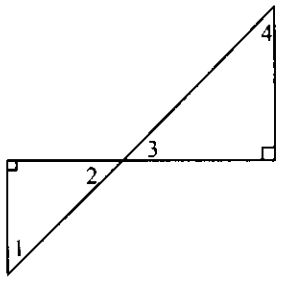
A [1] Transitive Property of Equality
[2] Division Property of Equality

B [1] Angle Addition Postulate
[2] Division Property of Equality

C [1] Angle Addition Postulate
[2] Simplify.

D [1] Segment Addition Postulate
[2] Multiplication Property of Equality

28 Use the given plan to write a two-column proof.
Given: $m\angle 1 + m\angle 2 = 90°$, $m\angle 3 + m\angle 4 = 90°$, $m\angle 2 = m\angle 3$



Prove: $m\angle 1 = m\angle 4$
Plan: Since both pairs of angle measures add to 90°, use substitution to show that the sums of both pairs are equal. Since $m\angle 2 = m\angle 3$, use substitution again to show that sums of the other pairs are equal. Use the Subtraction Property of Equality to conclude that $m\angle 1 = m\angle 4$.

Complete the proof.

Proof:

Statements	Reasons
1. $m\angle 1 + m\angle 2 = 90°$	1. Given
2. [1]	2. Given
3. $m\angle 1 + m\angle 2 = m\angle 3 + m\angle 4$	3. Substitution Property
4. $m\angle 2 = m\angle 3$	4. Given
5. $m\angle 1 + m\angle 2 = m\angle 2 + m\angle 4$	5. [2]
6. $m\angle 1 = m\angle 4$	6. [3]

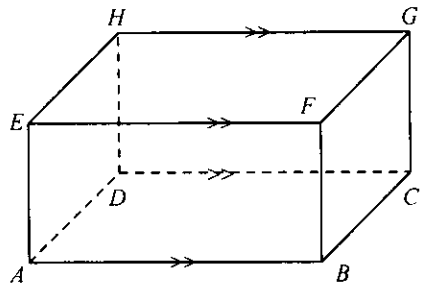
A [1] $m\angle 3 + m\angle 4 = 90°$
[2] Substitution Property
[3] Subtraction Property of Equality

B [1] $m\angle 5 + m\angle 6 = 90°$
[2] Substitution Property
[3] Subtraction Property of Equality

C [1] $m\angle 3 + m\angle 4 = 90°$
[2] Subtraction Property of Equality
[3] Substitution Property

D [1] $m\angle 5 + m\angle 6 = 90°$
[2] Addition Property of Equality
[3] Substitution Property

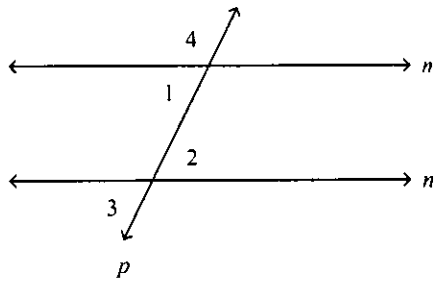
29 Identify a pair of parallel segments.



A $\overline{AB} \parallel \overline{EH}$
B $\overline{FB} \parallel \overline{AB}$
C $\overline{AB} \parallel \overline{HG}$
D $\overline{DH} \parallel \overline{FG}$

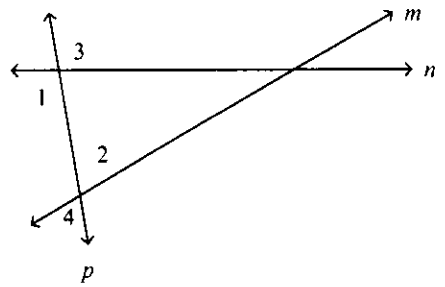
30 Draw two lines and a transversal such that $\angle 1$ and $\angle 2$ are alternate interior angles, $\angle 2$ and $\angle 3$ are corresponding angles, and $\angle 3$ and $\angle 4$ are alternate exterior angles. What type of angle pair is $\angle 1$ and $\angle 4$?

A



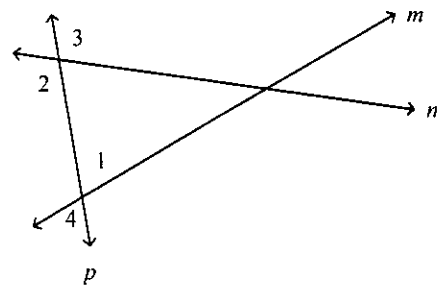
$\angle 1$ and $\angle 4$ are supplementary angles.

B



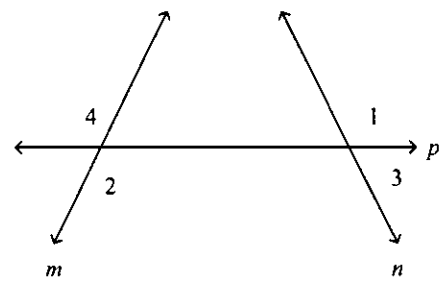
$\angle 1$ and $\angle 4$ are corresponding angles.

C



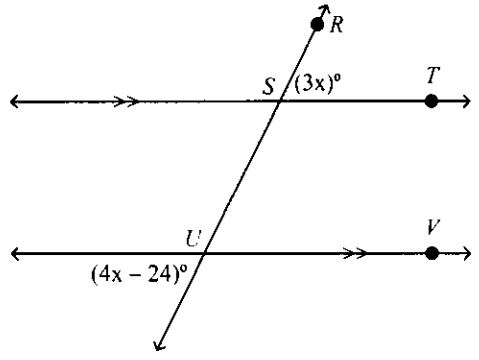
$\angle 1$ and $\angle 4$ are vertical angles.

D



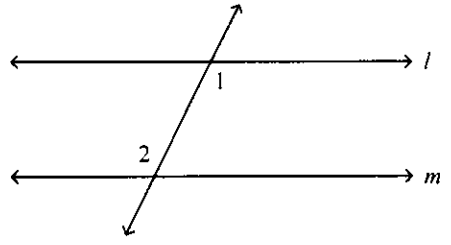
$\angle 1$ and $\angle 4$ are alternate exterior angles.

31 Find m∠*RST*.



A m∠*RST* = 108°
B m∠*RST* = 24°
C m∠*RST* = 156°
D m∠*RST* = 72°

32 Use the information
m∠1 = (3*x* + 30)°, m∠2 = (5*x* – 10)°, and *x* = 20, and the theorems you have learned to show that *l* || *m*.



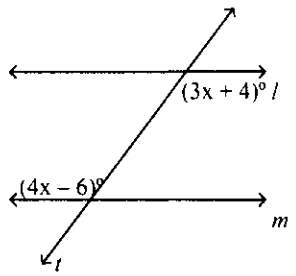
A By substitution, m∠1 = 3(20) + 30 = 90° and m∠2 = 5(20) – 10 = 90°.
By the Substitution Property of Equality, m∠1 = m∠2 = 90°.
By the Converse of the Alternate Interior Angles Theorem, *l* || *m*.

B By substitution, m∠1 = 3(20) + 30 = 90° and m∠2 = 5(20) – 10 = 90°.
Since ∠1 and ∠2 are alternate interior angles, m∠1 = m∠2 = 180°.
By the Converse of the Same-Side Interior Angles Theorem, *l* || *m*.

C By substitution, m∠1 = 3(20) + 30 = 90° and m∠2 = 5(20) – 10 = 90°.
Since ∠1 and ∠2 are same-side interior angles, m∠1 = m∠2 = 180°.
By the Converse of the Same-Side Interior Angles Theorem, *l* || *m*.

D Since ∠1 and ∠2 are same-side interior angles, m∠1 = 3(20) + 30 = 90° and m∠2 = 5(20) – 10 = 90°.
By substitution, m∠1 = m∠2 = 90°.
By the Converse of the Alternate Interior Angles Theorem, *l* || *m*.

33 In a swimming pool, two lanes are represented by lines l and m. If a string of flags strung across the lanes is represented by transversal t, and $x = 10$, show that the lanes are parallel.



A $3x + 4 = 3(10) + 4 = 34°$;
$4x - 6 = 4(10) - 6 = 34°$
The angles are alternate interior angles and they are congruent, so the lanes are parallel by the Alternate Interior Angles Theorem.

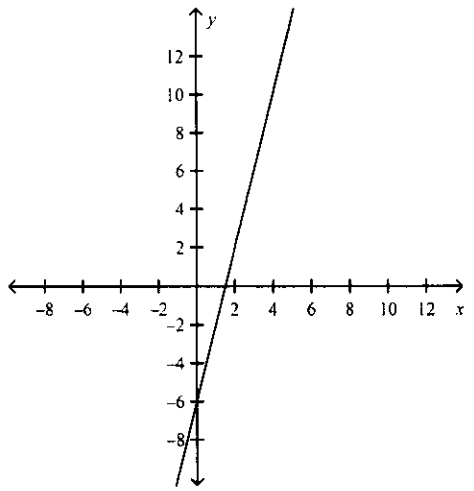
B $3x + 4 = 3(10) + 4 = 34°$;
$4x - 6 = 4(10) - 6 = 34°$
The angles are alternate interior angles, and they are congruent, so the lanes are parallel by the Converse of the Alternate Interior Angles Theorem.

C $3x + 4 = 3(10) + 4 = 34°$;
$4x - 6 = 4(10) - 6 = 34°$
The angles are corresponding angles and they are congruent, so the lanes are parallel by the Converse of the Corresponding Angles Postulate.

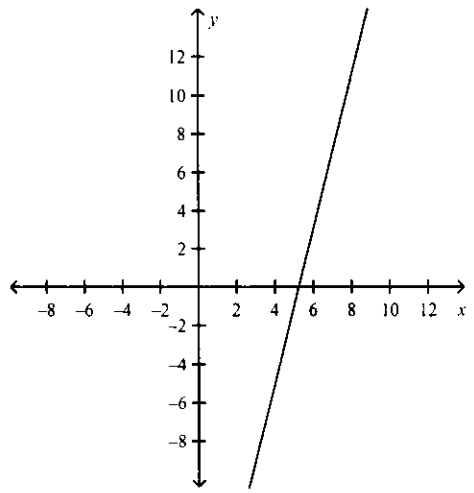
D $3x + 4 = 3(10) + 4 = 34°$;
$4x - 6 = 4(10) - 6 = 34°$
The angles are same-side interior angles and they are supplementary, so the lanes are parallel by the Converse of the Same-Side Interior Angles Theorem.

34 Graph the line $y - 3 = 4(x - 6)$.

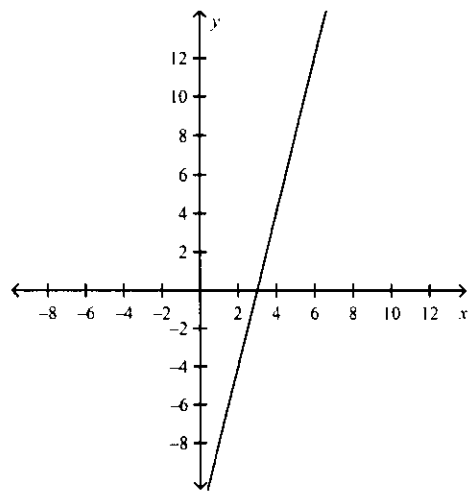
A



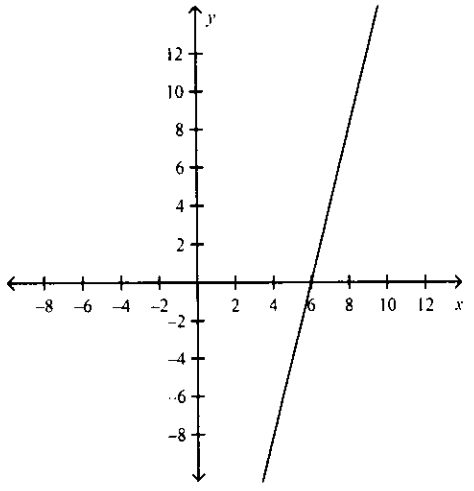
B



C

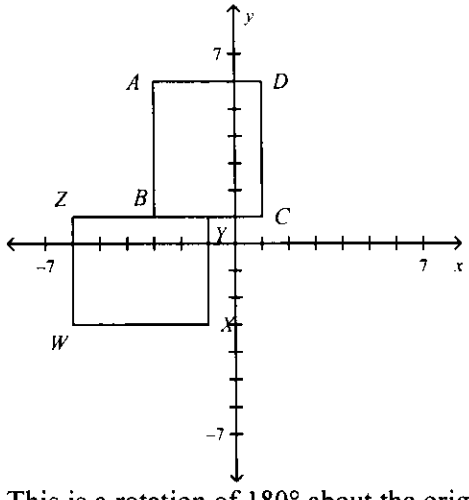


D



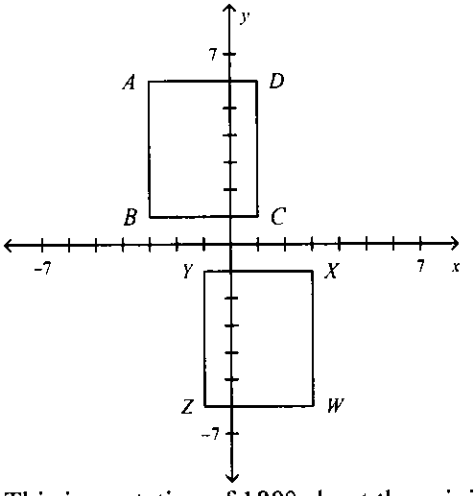
35 Apply the transformation M to the polygon with the given vertices.
Identify and describe the transformation.
M: $(x, y) \rightarrow (-x, -y)$
$A(-3, 6)$, $B(-3, 1)$, $C(1, 1)$, $D(1, 6)$

A



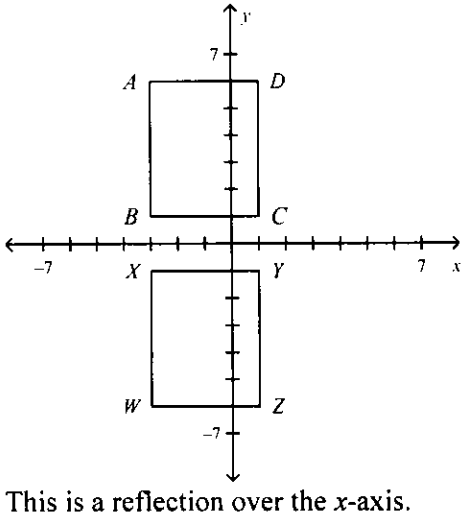
This is a rotation of 180° about the origin.

B



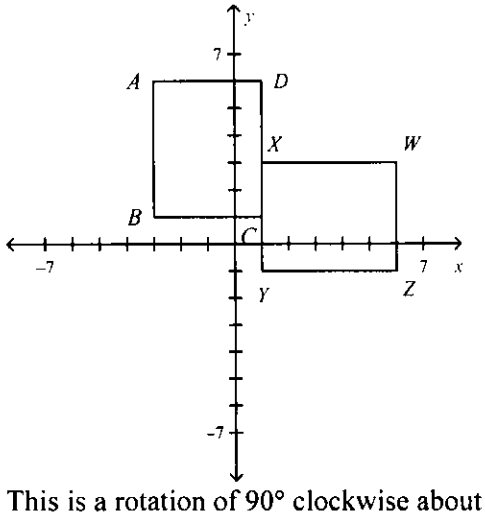
This is a rotation of 180° about the origin.

C



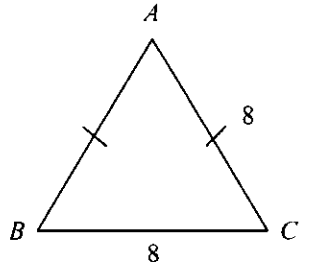
This is a reflection over the x-axis.

D



This is a rotation of 90° clockwise about the origin.

36 Classify ΔABC by its side lengths.

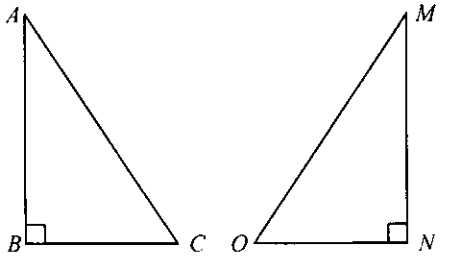


A equilateral triangle
B isosceles triangle
C scalene triangle
D obtuse triangle

37 One of the acute angles in a right triangle has a measure of 34.6°. What is the measure of the other acute angle?

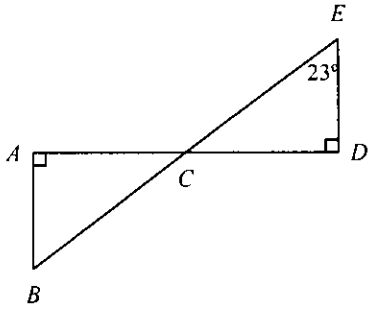
A 145.4°
B 34.6°
C 55.4°
D 90°

38 **Given**: $\Delta ABC \cong \Delta MNO$
Identify all pairs of congruent corresponding parts.



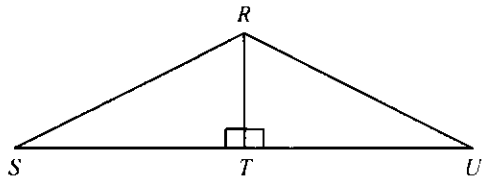
A $\overline{\angle A} \cong \overline{\angle M}, \overline{\angle B} \cong \overline{\angle N}, \overline{\angle C} \cong \overline{\angle O}, \overline{AB} \cong \overline{MN}, \overline{BC} \cong \overline{NO}, \overline{AC} \cong \overline{MO}$
B $\overline{\angle A} \cong \overline{\angle M}, \overline{\angle B} \cong \overline{\angle O}, \overline{\angle C} \cong \overline{\angle N}, \overline{AB} \cong \overline{MN}, \overline{BC} \cong \overline{NO}, \overline{AC} \cong \overline{MO}$
C $\overline{\angle A} \cong \overline{\angle M}, \overline{\angle B} \cong \overline{\angle N}, \angle C \cong \angle O, \overline{AB} \cong \overline{MO}, \overline{BC} \cong \overline{NO}, \overline{AC} \cong \overline{MN}$
D $\overline{\angle A} \cong \overline{\angle O}, \overline{\angle B} \cong \overline{\angle N}, \angle C \cong \angle M, \overline{AB} \cong \overline{NO}, \overline{BC} \cong \overline{MN}, \overline{AC} \cong \overline{MO}$

39 Given that $\Delta ABC \cong \Delta DEC$ and $m\angle E = 23°$, find $m\angle ACB$.



A $m\angle ACB = 77°$
B $m\angle ACB = 67°$
C $m\angle ACB = 23°$
D $m\angle ACB = 113°$

40 **Given**: $\overline{RT} \perp \overline{SU}$, $\angle SRT \cong \angle URT$, $\overline{RS} \cong \overline{RU}$. T is the midpoint of $\overline{SU}$.



Prove: $\Delta RTS \cong \Delta RTU$

Complete the proof.

Proof:

Statements	Reasons
1. $\overline{RT} \perp \overline{SU}$	1. Given
2. $\angle RTS$ and $\angle RTU$ are right angles.	2. [1]
3. $\angle RTS \cong \angle RTU$	3. Right Angle Congruence Theorem
4. $\angle SRT \cong \angle URT$	4. Given
5. $\angle S \cong \angle U$	5. [2]
6. $\overline{RS} \cong \overline{RU}$	6. Given
7. T is the midpoint of $\overline{SU}$.	7. Given
8. $\overline{ST} \cong \overline{UT}$	8. Definition of midpoint
9. $\overline{RT} \cong \overline{RT}$	9. [3]
10. $\Delta RTS \cong \Delta RTU$	10. Definition of congruent triangles

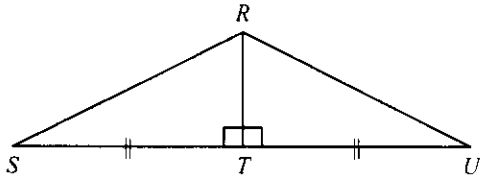
A [1] Definition of right angles
[2] Third Angles Theorem
[3] Transitive Property of Congruence

B [1] Definition of perpendicular lines
[2] Third Angles Theorem
[3] Reflexive Property of Congruence

C [1] Definition of perpendicular lines
[2] Vertical Angles Theorem
[3] Symmetric Property of Congruence

D [1] Definition of perpendicular lines
[2] Third Angles Theorem
[3] Symmetric Property of Congruence

41 The figure shows part of the roof structure of a house. Use SAS to explain why $\Delta RTS \cong \Delta RTU$.



Complete the explanation.

It is given that [1]. Since $\angle RTS$ and $\angle RTU$ are right angles, [2] by the Right Angle Congruence Theorem. By the Reflexive Property of Congruence, [3]. Therefore, $\Delta RTS \cong \Delta RTU$ by SAS.

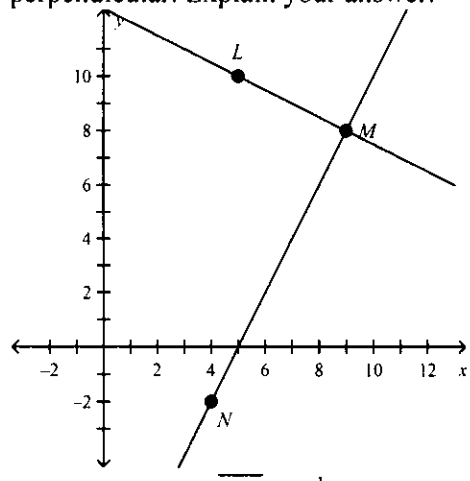
A [1] $\overline{RT} \cong \overline{RT}$
[2] $\angle SRT \cong \angle URT$
[3] $\overline{ST} \cong \overline{UT}$

B [1] $\overline{ST} \cong \overline{UT}$
[2] $\angle SRT \cong \angle URT$
[3] $\overline{ST} \cong \overline{UT}$

C [1] $\overline{ST} \cong \overline{UT}$
[2] $\angle RTS \cong \angle RTU$
[3] $\overline{RT} \cong \overline{RT}$

D [1] $\overline{ST} \cong \overline{UT}$
[2] $\angle RTS \cong \angle RTU$
[3] $\overline{SU} \cong \overline{SU}$

42 Determine whether or not the lines are perpendicular. Explain your answer.



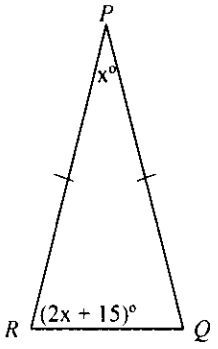
A The slope of $\overline{LM} = -\frac{1}{2}$ and the slope of $\overline{MN} = -2$. $\overline{LM}$ is perpendicular to $\overline{MN}$ because $-\frac{1}{2}(-2) = 1$.

B The slope of $\overline{LM} = -\frac{1}{2}$ and the slope of $\overline{MN} = \frac{6}{5}$. $\overline{LM}$ is not perpendicular to $\overline{MN}$ because $-\frac{1}{2}(\frac{6}{5}) \neq -1$.

C The slope of $\overline{LM} = 2$ and the slope of $\overline{MN} = -\frac{1}{2}$. $\overline{LM}$ is perpendicular to $\overline{MN}$ because $-2(\frac{1}{2}) = -1$.

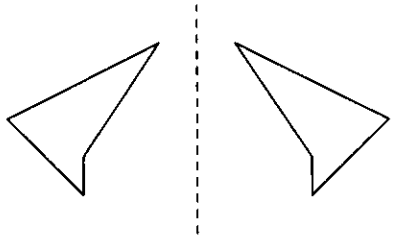
D The slope of $\overline{LM} = -\frac{1}{2}$ and the slope of $\overline{MN} = 2$. $\overline{LM}$ is perpendicular to $\overline{MN}$ because $-\frac{1}{2}(2) = -1$.

43 Find m$\angle Q$.



A m$\angle Q = 30°$
B m$\angle Q = 60°$
C m$\angle Q = 70°$
D m$\angle Q = 75°$

44 Tell whether the transformation appears to be a reflection. Explain.

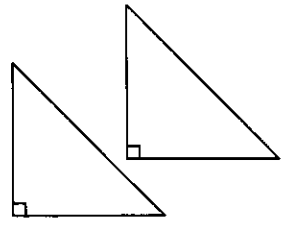


A Yes; the image appears to be flipped across a line.
B No; the image does not appear to be flipped.

45 Find the coordinates of the image of the point $(-5, 7)$ when it is reflected across the line $y = 11$.

A (–5, 18)
B (–5, 15)
C (–5, – 4)
D (–5, – 7)

46 Tell whether the transformation appears to be a translation. Explain.



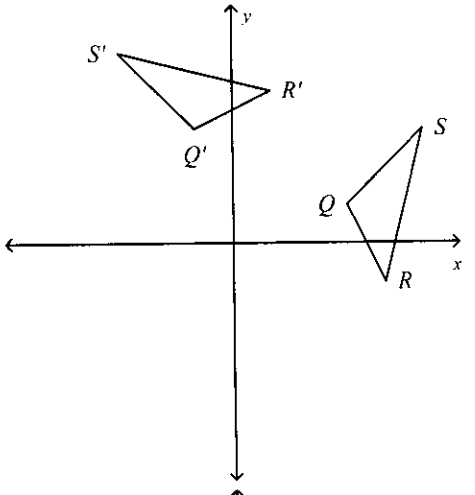
A Yes; all of the points have moved the same distance in the same direction.
B No; not all of the points have moved the same distance.

47 Translate the triangle with vertices $A(3, 4), B(2, -1)$, and $C(4, 12)$ along the vector $\langle -1, 3 \rangle$. Find the coordinates of the new image.

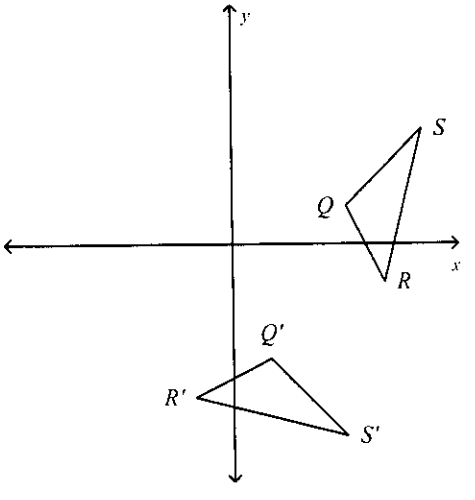
A $A'(2, 7), B'(1, 2)$, and $C'(3, 15)$
B $A'(-3, 12), B'(-2, -3)$, and $C'(-4, 36)$
C $A'(4, 7), B'(3, -2)$, and $C'(5, 15)$
D $A'(6, 3), B'(5, -2)$, and $C'(7, 11)$

48 Rotate ΔRSQ with vertices $R(4, -1)$, $S(5, 3)$, and $Q(3, 1)$ by 90° about the origin.

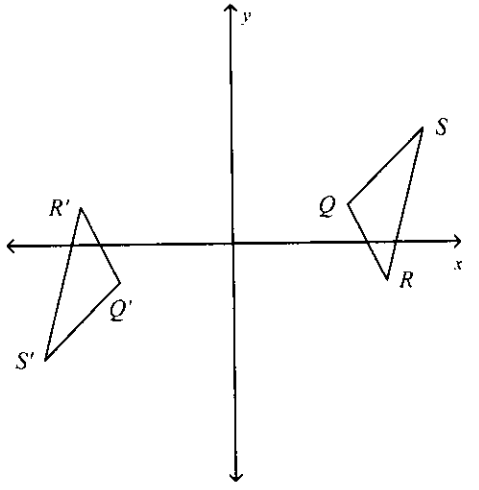
A



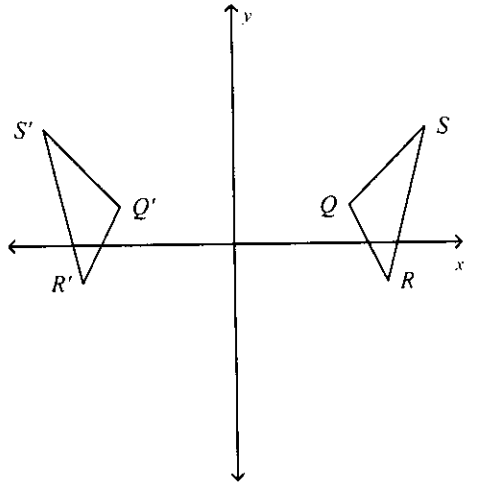
B



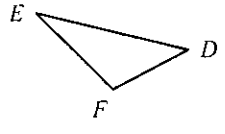
C

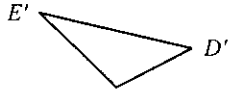


D

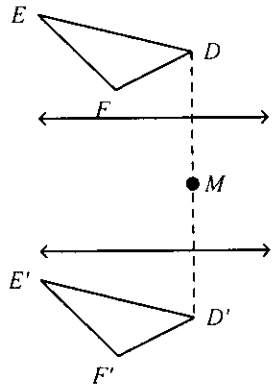


49 Copy each figure and draw two lines of reflection that produce an equivalent transformation of translation ΔDEF to $\Delta D'E'F'$.

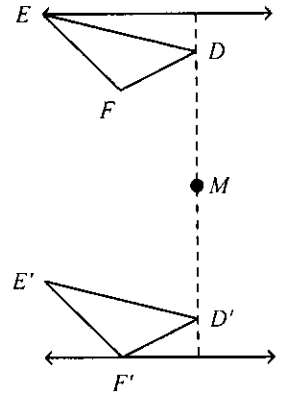




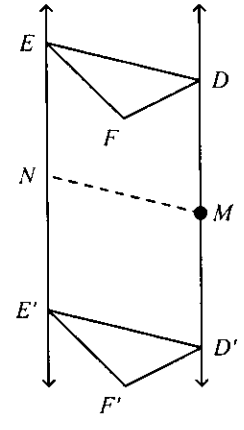
A



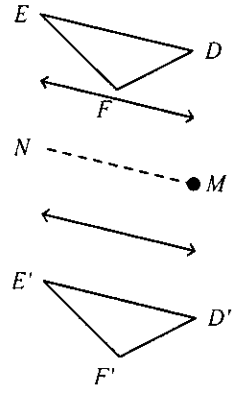
B



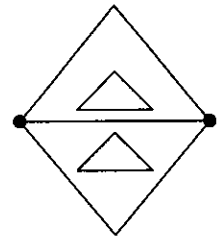
C



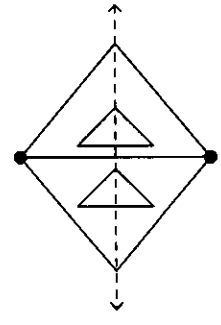
D



50 Tell whether the figure has line symmetry. If so, draw all the lines of symmetry.

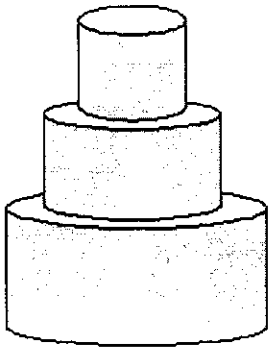


A yes, one line of symmetry

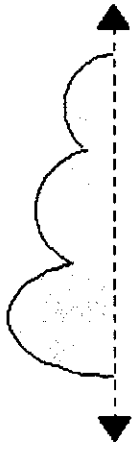


B no line symmetry

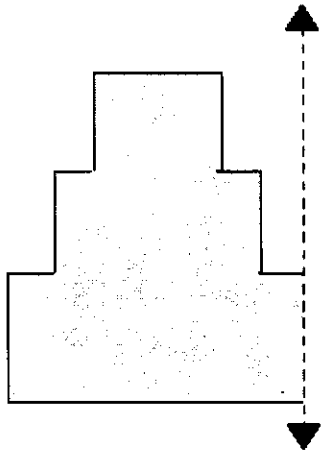
51 A layered round cake is a solid of revolution. Draw a two-dimensional shape and an axis of rotation that could form the cake.



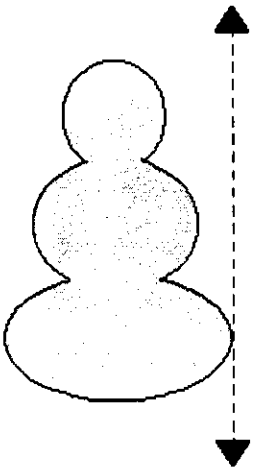
A



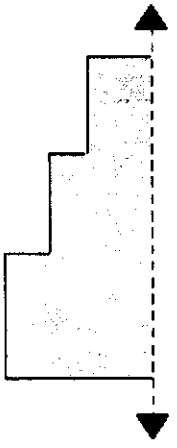
B



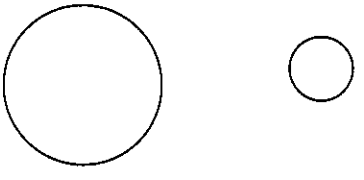
C



D

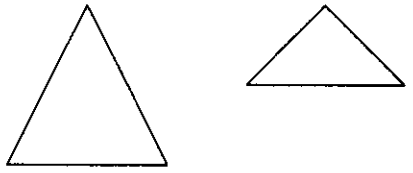


52 Tell whether the transformation appears to be a dilation. Explain.



A Yes; the figures are similar, and the image is not turned or flipped.
B No; the figures are not similar.

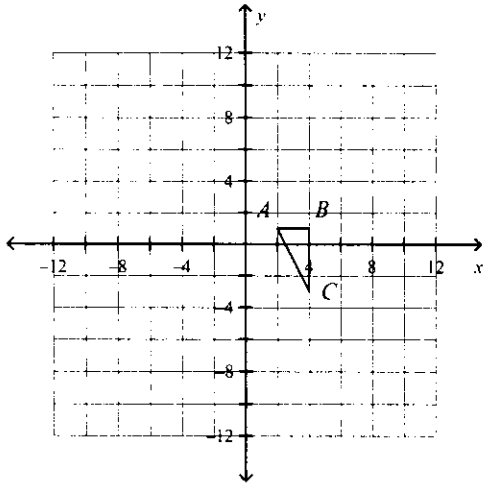
53 Tell whether the transformation appears to be a dilation. Explain.



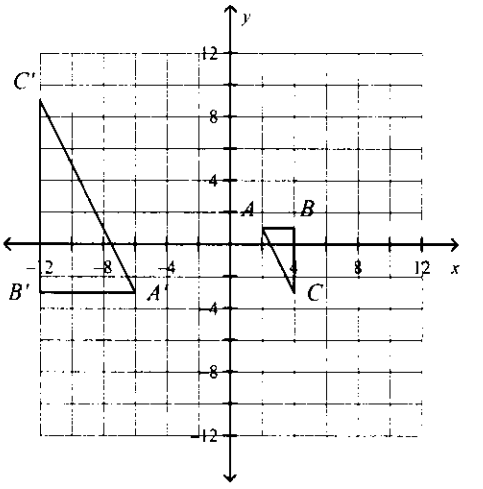
A Yes; the figures are similar, and the image is not turned or flipped.

B No; the figures are not similar.

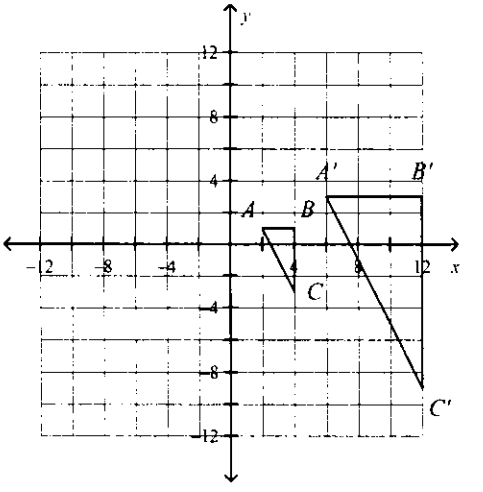
54 A triangle with vertices (2, 1), (4, 1), and (4, −3) is given. Which of the following is the image of the triangle under a dilation with a scale factor of −3 centered at the origin?



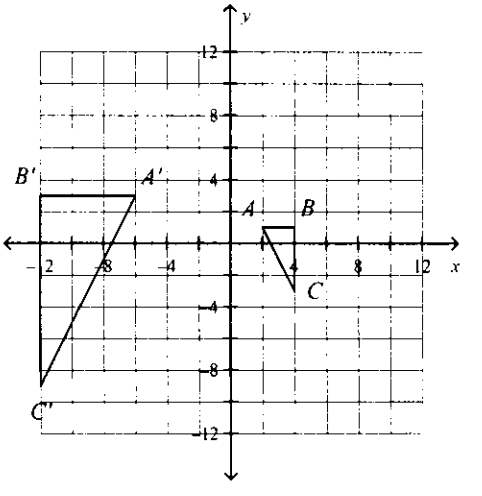
A



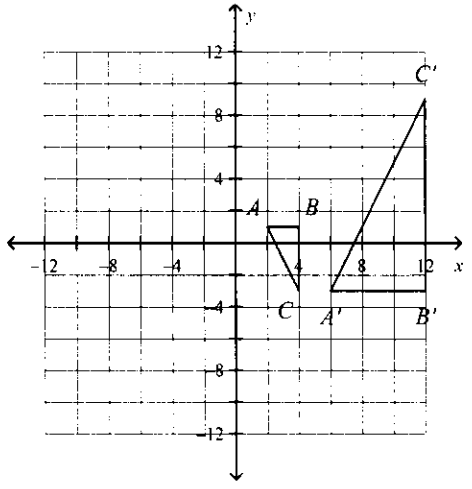
B



C



D



Match each vocabulary term with its definition.

A collinear
B segment
C line
D plane
E point
F ray
G undefined term
H coplanar

55 a basic figure that is not defined in terms of other figures

56 points that lie on the same line

57 a flat surface that has no thickness and extends forever

58 a straight path that has no thickness and extends forever

59 a location that has no size

60 points that lie in the same plane