

Standardized Test Practice

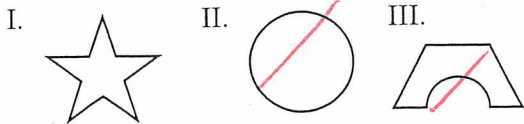
For use with pages 322-328

1-7

TEST TAKING STRATEGY Do not panic if you run out of time before answering all of the questions. You can still receive a high test score without answering every question.

Chapter 6

1. **Multiple Choice** Which figure below is a polygon?



- (A) I only (B) II only
 (C) III only (D) I and III
 (E) none of these

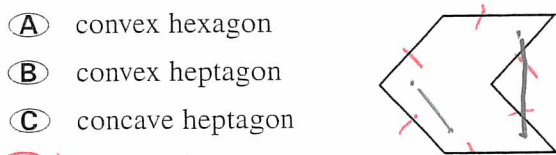
2. **Multiple Choice** A polygon with 7 sides is called a _____.

- (A) nonagon (B) dodecagon
 (C) heptagon (D) hexagon
 (E) decagon

3. **Multiple Choice** An octagon has how many sides?

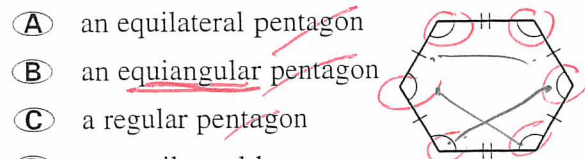
- (A) 5 (B) 6 (C) 7
 (D) 8 (E) 9

4. **Multiple Choice** The figure below is a _____.



- (D) concave hexagon
 (E) concave pentagon

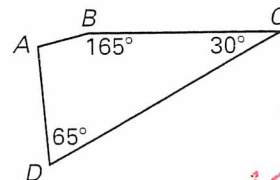
5. **Multiple Choice** The polygon below is best described as _____.



- (E) an equiangular hexagon

6. **Multiple Choice** Find $m\angle A$.

- (A) 65°
 (B) 135°
 (C) 100°
 (D) 90°
 (E) 105°

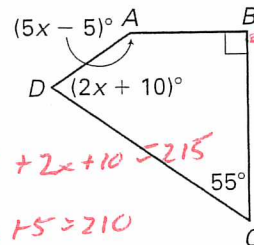


360
 - 30
 - 165
 - 65

 100

7. **Multiple Choice** Find the value of x .

- (A) 40
 (B) 10
 (C) 45
 (D) 30
 (E) 70



360
 - 90

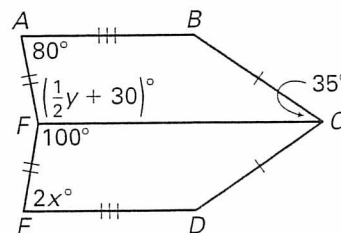
 270
 - 55

 215
 5x - 5 + 2x + 10 = 215
 7x + 5 = 210
 7x = 210
 x = 30

8. **Quantitative Comparison** Choose the statement below that is true about the given value.

Given: $ABCF \cong EDCF$

- (A) The value in column A is greater.
 (B) The value in column B is greater.
 (C) The two values are equal.
 (D) The relationship cannot be determined from the given information.



Column A	Column B
x	y

Standardized Test Practice # 1-7

For use with pages 330-337

TEST TAKING STRATEGY If you find yourself spending too much time on one test question and getting frustrated, move on to the next question. You can revisit a difficult problem later with a fresh perspective.

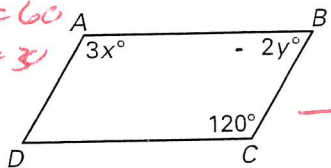
1. **Multiple Choice** Opposite angles of a parallelogram must be _____?

- (A) complementary
- (B) supplementary
- (C) congruent
- (D) A and C
- (E) B and C

2. **Multiple Choice** What are the values of the variables in parallelogram ABCD?

$3x = 120$
 $x = 40$

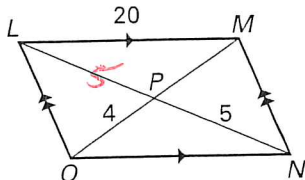
$2y = 60$
 $y = 30$



- (A) $x = 40, y = 60$
- (B) $x = 30, y = 40$
- (C) $x = 60, y = 20$
- (D) $x = 20, y = 60$
- (E) $x = 40, y = 30$

3. **Multiple Choice** What is the length of \overline{LP} ?

- (A) 4
- (B) 5
- (C) 8
- (D) 10
- (E) 20



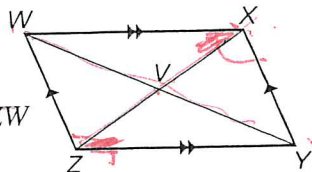
4. **Multiple Choice** In the parallelogram in Exercise 3, what is the length of \overline{MN} if the perimeter is 70 units?

70
 -40
 30
 $\div 2$
 15

- (A) 20 units
- (B) 15 units
- (C) 10 units
- (D) 30 units
- (E) 50 units

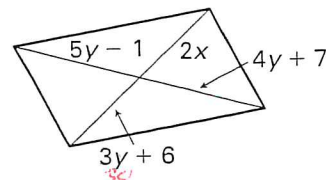
5. **Multiple Choice** Which statement is not always true about parallelogram WXYZ?

- (A) $\overline{WX} \cong \overline{WZ}$
- (B) $\overline{XY} \cong \overline{WZ}$
- (C) $\angle WXY \cong \angle YZW$
- (D) $\overline{WY} \cong \overline{XZ}$
- (E) $\angle WXZ \cong \angle XZY$



6. **Multiple Choice** What are the values of x and y ?

$5y - 1 = 4y + 7$
 $y = 8$



- (A) $x = 12, y = 6$
- (B) $x = 6, y = 12$
- (C) $x = 8, y = 15$
- (D) $x = 4, y = 8$
- (E) $x = 15, y = 8$

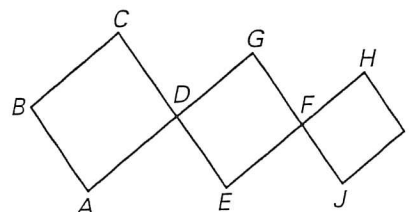
7. **Multiple Choice** Three coordinate points of a parallelogram are $(2, 1)$, $(4, 4)$, and $(7, 4)$. Find the fourth vertex.

- (A) $(5, 1)$
- (B) $(2, 7)$
- (C) $(5, 4)$
- (D) $(5, 7)$
- (E) $(1, 7)$

8. **Quantitative Comparison** Use the information given. Choose the statement below that is true about the given value.

- (A) The value in column A is greater.
- (B) The value in column B is greater.
- (C) The two values are equal.
- (D) The relationship cannot be determined from the given information.

Given: $ABCD$, $DEFG$, and $FHIJ$ are parallelograms.



Column A	Column B
$m\angle C$	$m\angle E$

Standardized Test Practice

#1-5

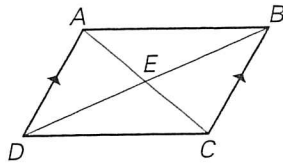
For use with pages 338–346

TEST TAKING STRATEGY Read each test question carefully. Always look for shortcuts that will allow you to work through a problem more quickly.

Chapter 6

1. **Multiple Choice** Which additional piece of information do you need to prove $ABCD$ is a parallelogram?

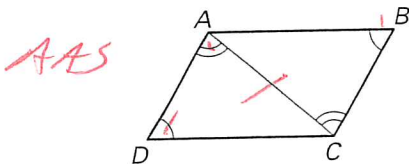
- (A) $\overline{AB} \cong \overline{DC}$
- (B) $\overline{AD} \cong \overline{BC}$
- (C) $\overline{AB} \parallel \overline{DC}$
- (D) A or B
- (E) B or C



2. **Multiple Choice** $WXYZ$ is a quadrilateral. Which information would *not* allow you to conclude that $WXYZ$ is a parallelogram?

- (A) $\overline{WX} \cong \overline{ZY}$, $\overline{WZ} \cong \overline{XY}$
- (B) $\angle W \cong \angle Y$, $\angle X \cong \angle Z$
- (C) $\overline{WX} \parallel \overline{ZY}$, $\overline{WZ} \cong \overline{XY}$
- (D) $\overline{WZ} \parallel \overline{XY}$, $\overline{WX} \parallel \overline{ZY}$
- (E) $\overline{WZ} \cong \overline{XY}$, $\overline{WZ} \parallel \overline{XY}$

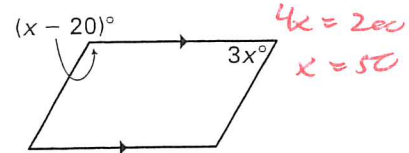
3. **Multiple Choice** To prove that $ABCD$ is a parallelogram, you would have to first prove $\triangle ACD \cong \triangle CAB$ using the _____?



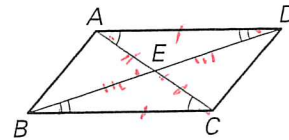
- (A) SAS Congruence Postulate
- (B) SSS Congruence Postulate
- (C) AAS Congruence Theorem
- (D) ASA Congruence Postulate
- (E) none of these

4. **Multiple Choice** What value of x will make the quadrilateral a parallelogram? $x - 20 + 3x = 180$

- (A) 5
- (B) 10
- (C) 50
- (D) 40
- (E) 60



5. **Multiple Choice** Given that $\triangle AED \cong \triangle CEB$, $ABCD$ would be a parallelogram because _____?



- (A) both pairs of opposite sides are parallel
- (B) the diagonals bisect each other
- (C) both pairs of opposite sides are congruent
- (D) both pairs of opposite angles are congruent
- (E) one angle is supplementary to both of its consecutive angles

6. **Multi-Step Problem** Consider the four points $A(5, 4)$, $B(6, 2)$, $C(3, 1)$, and $D(8, 5)$.

- a. Show that $ACBD$ is a parallelogram by showing that opposite sides are parallel.
- b. Show that $ACBD$ is a parallelogram by showing that opposite sides are congruent.
- c. Show that $ACBD$ is a parallelogram by showing that the diagonals bisect each other. Label the intersection of diagonals \overline{AB} and \overline{CD} point E .

Standardized Test Practice

For use with pages 347-355

$\frac{1}{2}x + 6 = \frac{5}{2}x - 2$

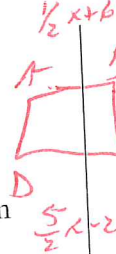
#1-8

TEST TAKING STRATEGY

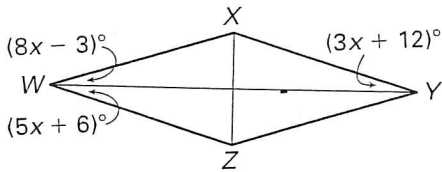
When checking your work, try to use a method other than the one you originally used to get your answer. If you use the same method, you may make the same mistake twice.

1. **Multiple Choice** What special type of quadrilateral has the vertices $A(-2, 1)$, $B(2, -3)$, $C(2, 1)$, and $D(-2, -3)$?

- (A) rhombus (B) square (C) rectangle (D) parallelogram (E) none of these



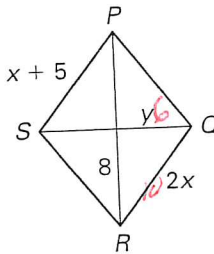
2. **Multiple Choice** $WXYZ$ is a rhombus. What is the value of x ?



- (A) 9 (B) 3 (C) 4 (D) $\frac{2}{3}$ (E) 1

3. **Multiple Choice** In the diagram below, $PQRS$ is a rhombus. What are the values of x and y ?

- (A) $x = \frac{5}{3}, y = 4$
 (B) $x = 5, y = 2$
 (C) $x = 10, y = 4$
 (D) $x = 5, y = 6$
 (E) $x = 10, y = 6$



4. **Multiple Choice** The diagonals of a rectangle must _____.

- (A) bisect each other (B) be perpendicular (C) be congruent (D) A and B (E) A and C

5. **Multiple Choice** If a quadrilateral has four equal sides, then it must be a _____.

- (A) rectangle (B) square (C) rhombus (D) A and B (E) B and C

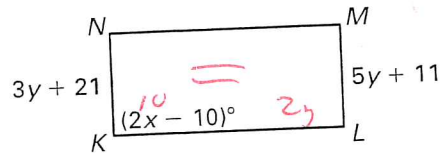
6. **Multiple Choice** In rectangle $ABCD$, $AB = \frac{1}{2}x + 6$ and $CD = \frac{5}{2}x - 2$. Find the value of x .

- (A) 4 (B) $\frac{3}{4}$ (C) 5 (D) 2 (E) $\frac{3}{3}$

7. **Multiple Choice** The perimeter of a square $MNOP$ is 72 inches, and $NO = 2x + 6$. What is the value of x ?

- (A) 15 (B) 12 (C) 6 (D) 9 (E) 18

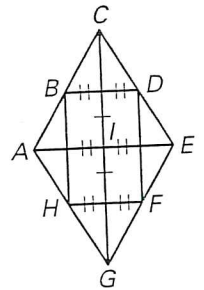
8. **Multiple Choice** $KLMN$ is a rectangle. Find the values of x and y .



- (A) $x = 50, y = 16$ (B) $x = 40, y = 5$
 (C) $x = 40, y = 16$ (D) $x = 50, y = 5$
 (E) $x = 50, y = 4$

Quantitative Comparison

In the diagram, $ACEG$ is a rhombus, $BDFH$ is a rectangle, and $\triangle ACE$ is an equilateral triangle. For Exercises 9 and 10, choose a statement below that is true about the given values.



- (A) The value in column A is greater.
 (B) The value in column B is greater.
 (C) The two values are equal.
 (D) The relationship cannot be determined from the given information.

	Column A	Column B
9.	$m\angle BAI$	$m\angle ICD$
10.	BC	GF

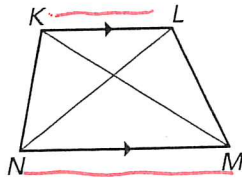
Standardized Test Practice #1-7

For use with pages 356-363

TEST TAKING STRATEGY Staying physically relaxed during the SAT is very important. If you find yourself tensing up, put your pencil down and take a couple of deep breaths. This will help you stay calm.

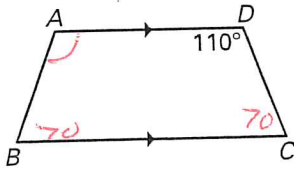
1. **Multiple Choice** In trapezoid $KLMN$, \overline{KL} and \overline{NM} are _____?

- (A) legs
- (B) bases
- (C) consecutive angles
- (D) diagonals
- (E) none of these



2. **Multiple Choice** In the isosceles trapezoid $ABCD$, find $m\angle B$.

- (A) 110°
- (B) 55°
- (C) 70°
- (D) 60°
- (E) 140°

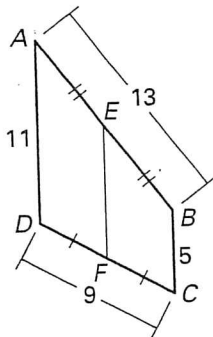


3. **Multiple Choice** Which statements below must be true if $ABCD$ is an isosceles trapezoid with a leg \overline{AD} ?

- I. $\overline{AB} \cong \overline{DC}$
 - II. $\overline{AD} \cong \overline{BC}$
 - III. $\overline{AB} \parallel \overline{DC}$
 - IV. $\overline{AD} \parallel \overline{BC}$
- (A) I and III (B) I and IV
 (C) II and III (D) II and IV
 (E) I, II, and III

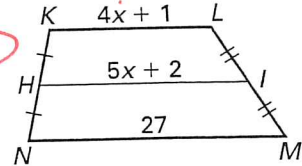
4. **Multiple Choice** $ABCD$ is a trapezoid. Find the length of midsegment \overline{EF} .

- (A) 5
- (B) 11
- (C) 16
- (D) 8
- (E) 22



5. **Multiple Choice** Find the length of \overline{KL} in the trapezoid below.

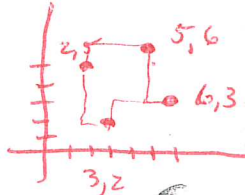
- (A) 22
- (B) 4
- (C) 13
- (D) 17
- (E) 27



$4x + 1 + 27 = 10x + 4$
 $24 = 6x$
 $x = 4$

6. **Multiple Choice** What special type of quadrilateral has the vertices $A(6, 3)$, $B(2, 5)$, $C(3, 2)$, and $D(5, 6)$?

- (A) square
- (B) rectangle
- (C) rhombus
- (D) trapezoid
- (E) kite



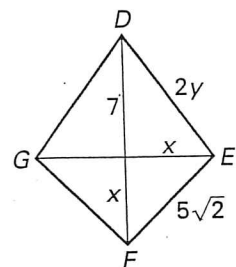
7. **Multiple Choice** The midsegment of a trapezoid is 9 cm long. What choice below is not a possible choice for the lengths of the bases?

- (A) 2, 16
- (B) 5, 4
- (C) 8, 10
- (D) 6, 12
- (E) 5, 13

8. **Quantitative Comparison** In the diagram, $DEFG$ is a kite. Choose the statement below that is true about the given value.

- (A) The value in column A is greater.
- (B) The value in column B is greater.
- (C) The values are equal.
- (D) The relationship cannot be determined with the given information.

Column A	Column B
x	y



Standardized Test Practice

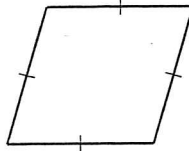
For use with pages 364-370

1-6

TEST TAKING STRATEGY Avoid spending too much time on one question. Skip questions that are too difficult for you, and spend no more than a few minutes on each question.

1. **Multiple Choice** The quadrilateral below is most specifically a _____?

- (A) rhombus
- (B) rectangle
- (C) kite
- (D) parallelogram
- (E) trapezoid

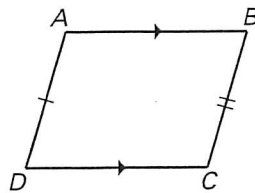


2. **Multiple Choice** A quadrilateral with at least two sides parallel and two congruent sides might be _____?

- (A) a rhombus
- (B) an isosceles trapezoid
- (C) a kite
- (D) A or B
- (E) none of these

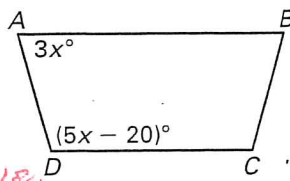
3. **Multiple Choice** What kind of quadrilateral would meet the conditions of the diagram? $ABCD$ is not drawn to scale.

- (A) kite
- (B) rhombus
- (C) trapezoid
- (D) square
- (E) parallelogram



4. **Multiple Choice** What value of x would make quadrilateral $ABCD$ a trapezoid?

- (A) 30
- (B) 20
- (C) 25
- (D) 35
- (E) 10



$3x + 5x - 20 = 180$
 $8x = 200$
 $x = 25$

5. **Multiple Choice** Which statements below are always true about a rectangle?

- I. Both pairs of opposite angles are congruent.
- II. The diagonals are perpendicular.
- III. Both pairs of opposite sides are congruent.

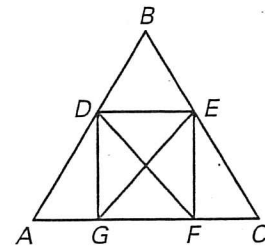
- (A) I
- (B) II
- (C) III
- (D) I and III
- (E) none of these

6. **Multiple Choice** Which statements below are always true about a trapezoid?

- I. Exactly one pair of opposite sides are congruent.
- II. Exactly one pair of opposite sides are parallel.
- III. The diagonals are congruent.

- (A) I
- (B) II
- (C) III
- (D) I and II
- (E) none of these

(7.) **Multi-Step Problem** In the diagram, $DEFG$ is a rectangle and $\triangle ABC$ is regular.



- a. If $GE = 10y - 2$ and $DF = \frac{2}{3}y + 12$, find the value of y .
- b. If the midsegment of trapezoid $DECG$ is 5 inches, $DE = 3x + 2$, and $GC = 8x - 3$, find the value of x .
- c. Prove that $\triangle ADG \cong \triangle CEF$.