

• **Geometry Chapters 1 – 6 Review**

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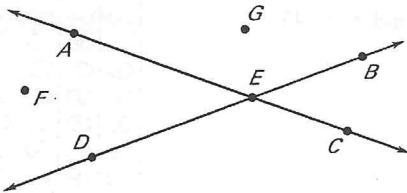
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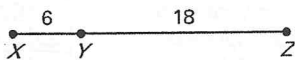
CHAPTER 1 **SAT/ACT Chapter Test**
For use after Chapter 1

Multiple Choice

In Exercises 1-3, use the figure below.



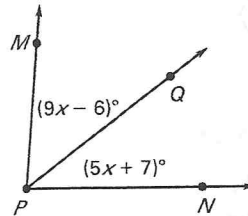
- Which line is *not* drawn?
 - (A) \overleftrightarrow{AE} (B) \overleftrightarrow{EC}
 - (C) \overleftrightarrow{BD} (D) \overleftrightarrow{FD}
 - (E) \overleftrightarrow{AC}
- Which points are collinear?
 - (A) A, E, C (B) F, D, E
 - (C) A, E, D (D) D, E, C
 - (E) G, B, E
- What is the intersection of \overleftrightarrow{AC} and \overleftrightarrow{BD} ?
 - (A) AC (B) EC
 - (C) D (D) BD
 - (E) E
- What is the length of \overline{XZ} ?
 - (A) 3
 - (B) 12
 - (C) 24
 - (D) 25
 - (E) 114



In Exercises 5 and 6, use the points $A(3, -8)$ and $B(1, 2)$.

- What is the midpoint of \overline{AB} ?
 - (A) $(-2, 3)$ (B) $(1, -5)$
 - (C) $(1, 5)$ (D) $(2, -3)$
 - (E) $(2, 3)$
- What is the approximate length of \overline{AB} ?
 - (A) 6.3 (B) 7.2
 - (C) 10.2 (D) 10.8
 - (E) 12.2

In Exercises 7-9, use the figure below.



- If $m\angle MPN = 85^\circ$, what is x ?
 - (A) 5 (B) 6
 - (C) 7 (D) 20
 - (E) 21
- If $m\angle MPN = 85^\circ$, what is $m\angle MPQ$?
 - (A) 37° (B) 39°
 - (C) 40° (D) 48°
 - (E) 60°
- If $\angle MPN$ were redrawn so that $m\angle MPN = 43^\circ$, what would be $m\angle QPN$?
 - (A) 8° (B) 21°
 - (C) 22° (D) 30°
 - (E) 33°

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CHAPTER 1 **SAT/ACT Chapter Test** *continued*
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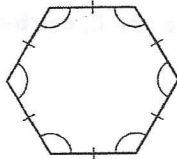
10. If $\angle 1$ and $\angle 2$ are supplementary and $m\angle 1 = 67^\circ$, what is $m\angle 2$?

- (A) 23° (B) 25° (C) 110°
 (D) 113° (E) 157°

11. If $\angle 1$ and $\angle 2$ are complementary, what are the measures of the angles when $m\angle 1 = (4x - 7)^\circ$ and $m\angle 2 = (x + 12)^\circ$?

- (A) 141° and 39° (B) 61° and 29°
 (C) 133° and 47° (D) 31° and 69°
 (E) 21° and 69°

12. What is the correct classification of the figure?



- (A) equilateral triangle
 (B) regular pentagon
 (C) regular hexagon
 (D) regular octagon
 (E) regular decagon

13. What is the approximate area of a circle with diameter 13.7 inches?

- (A) 43.0 square inches
 (B) 530.9 square inches
 (C) 147.4 square inches
 (D) 21.5 square inches
 (E) 135.2 square inches

14. The base of a triangle is 7.4 centimeters and the area of the triangle is 33.3 square centimeters. What is the height of the triangle?

- (A) 9 cm (B) 11 cm (C) 18 cm
 (D) 36 cm (E) 81 cm

Gridded Answer

15. Point B is on \overline{AC} . What is the length of \overline{BC} , if $AB = 23$ and $AC = 47$?

0	1	2	3
4	5	6	7
8	9	0	1
2	3	4	5
6	7	8	9
0	1	2	3
4	5	6	7
8	9	0	1
2	3	4	5
6	7	8	9
0	1	2	3
4	5	6	7
8	9	0	1
2	3	4	5
6	7	8	9

16. A rectangle has an area of 31.2 square meters. What is the width of the rectangle if the length is 6 meters?

0	1	2	3
4	5	6	7
8	9	0	1
2	3	4	5
6	7	8	9
0	1	2	3
4	5	6	7
8	9	0	1
2	3	4	5
6	7	8	9
0	1	2	3
4	5	6	7
8	9	0	1
2	3	4	5
6	7	8	9

17. A gardener wants to replant a circular bare spot in a yard with grass. The bare spot has a radius of 8 inches. What is the area of the bare spot the gardener needs to replant to the nearest foot?

0	1	2	3
4	5	6	7
8	9	0	1
2	3	4	5
6	7	8	9
0	1	2	3
4	5	6	7
8	9	0	1
2	3	4	5
6	7	8	9
0	1	2	3
4	5	6	7
8	9	0	1
2	3	4	5
6	7	8	9

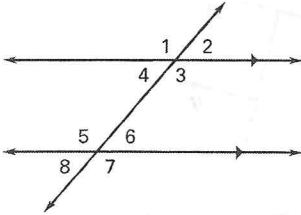
CHAPTER 3

SAT/ACT Chapter Test

For use after Chapter 3

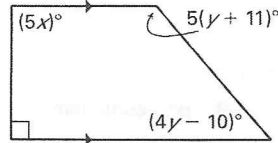
Multiple Choice

In Exercises 1–4, use the following diagram.

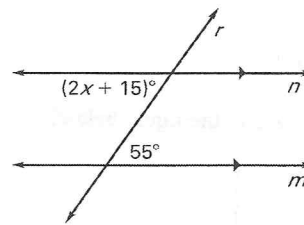


- What pair of angles are corresponding angles?
 - (A) $\angle 1$ and $\angle 2$
 - (B) $\angle 1$ and $\angle 3$
 - (C) $\angle 1$ and $\angle 4$
 - (D) $\angle 1$ and $\angle 5$
 - (E) $\angle 1$ and $\angle 6$
- What pair of angles are alternate exterior angles?
 - (A) $\angle 1$ and $\angle 3$
 - (B) $\angle 1$ and $\angle 5$
 - (C) $\angle 1$ and $\angle 6$
 - (D) $\angle 1$ and $\angle 7$
 - (E) $\angle 1$ and $\angle 8$
- What is the angle relationship between $\angle 4$ and $\angle 6$?
 - (A) The angles are corresponding angles.
 - (B) The angles are alternate interior angles.
 - (C) The angles are alternate exterior angles.
 - (D) The angles are consecutive interior angles.
 - (E) The angles are vertical angles.
- What is the relationship between $\angle 3$ and $\angle 6$?
 - (A) The angles equal.
 - (B) The angles are complementary.
 - (C) The angles are supplementary.
 - (D) The angles are both acute.
 - (E) The angles are both obtuse.

In Exercises 5 and 6, use the following figure.



- What is the value of x ?
 - (A) 18
 - (B) 45
 - (C) 85
 - (D) 90
 - (E) 95
- What is the measure of the obtuse angle?
 - (A) 15°
 - (B) 50°
 - (C) 120°
 - (D) 130°
 - (E) 180°
- What value of x makes $m \parallel n$?
 - (A) 20
 - (B) 25
 - (C) 38
 - (D) 68
 - (E) 83



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CHAPTER
3

SAT/ACT Chapter Test *continued*

For use after Chapter 3

8. Describe the lines passing through the given points.

Line 1: (5, 8), (4, 3)

Line 2: (-4, 9), (-2, -1)

- (A) parallel (B) perpendicular
(C) horizontal (D) vertical
(E) none of the above

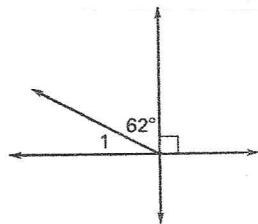
9. What is the equation of the line passing through the point (4, 1) that is parallel to the line with the equation $6x - 3y = 21$?

- (A) $y = -2x + 9$
(B) $y = 0.5x - 1$
(C) $y = -0.5x + 3$
(D) $y = 2x - 9$
(E) $y = 2x - 7$

10. What is the equation of the line that passes through the point (-3, 5) with a slope of 4?

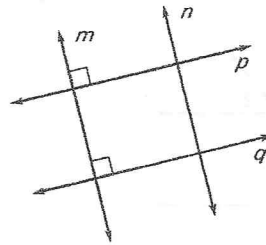
- (A) $y = 4x - 17$
(B) $y = 4x + 17$
(C) $y = 4x + 2$
(D) $y = 4x - 7$
(E) $y = 4x + 12$

11. What is $m\angle 1$ in the figure below?



- (A) 28° (B) 62°
(C) 90° (D) 152°
(E) 180°

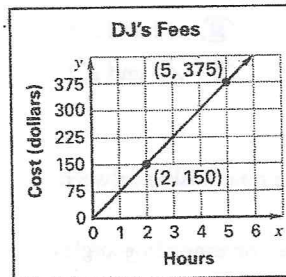
12. Which lines are parallel in the figure below?



- (A) m and n (B) m and p (C) m and q
(D) p and q (E) p and n

Gridded Answer

13. The graph shows the cost of a DJ's services over time. What is the slope of the line?



	/	/	
0	0	0	0
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9

14. You can send and receive text messages on your cell phone for \$.12 a message. Your cell phone provider also offers a plan for an unlimited number of messages for \$4 per month. How many text messages must you send and receive a month to make the unlimited plan a better buy?

	/	/	
0	0	0	0
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9

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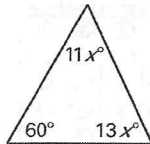
CHAPTER
4

SAT/ACT Chapter Test

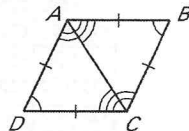
For use after Chapter 4

Multiple Choice

In Exercises 1–3, use the following figure.

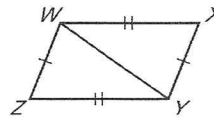


- What is the value of x ?
 (A) 3 (B) 4
 (C) 5 (D) 6
 (E) 7
- What is the measure of the largest angle?
 (A) 55° (B) 60°
 (C) 65° (D) 90°
 (E) 95°
- What is the best classification for the triangle?
 (A) Right (B) Acute
 (C) Obtuse (D) Equilateral
 (E) Equiangular
- Which congruence statement is correct for the congruent triangles shown?



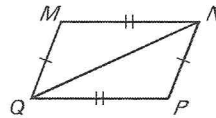
- $\triangle ABC \cong \triangle CDA$
- $\triangle ABC \cong \triangle ADC$
- $\triangle ACB \cong \triangle CDA$
- $\triangle ACB \cong \triangle ACD$
- $\triangle BCA \cong \triangle DCA$

- How are the triangles congruent?



- AAS
- ASA
- SAS
- SSS
- HL

In Exercises 6 and 7, use the following figure.



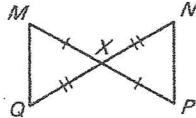
- What would be a reason for the statement $\triangle MNQ \cong \triangle PQN$ in a proof of $\angle M \cong \angle P$?
 (A) AAS
 (B) ASA
 (C) SAS
 (D) SSS
 (E) HL
- What would be a reason for the statement $\angle M \cong \angle P$ in a proof of $\angle M \cong \angle P$?
 (A) Reflexive Property
 (B) Corresponding parts of $\cong \triangle$ are \cong .
 (C) Symmetric Property
 (D) Transitive Property
 (E) Definition of congruent angles

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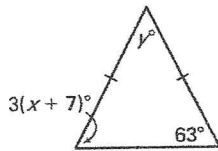
CHAPTER 4 **SAT/ACT Chapter Test** *continued*
For use For use after Chapter 4

8. Which postulate or theorem would you use to prove $\triangle MXQ \cong \triangle PNX$?



- (A) AAS (B) ASA
 (C) SAS (D) SSS
 (E) HL

In Exercises 9–11, use the following figure.



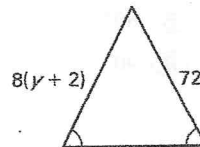
9. What is the value of x ?
 (A) 2 (B) 14
 (C) 32 (D) 37
 (E) 58.5
10. What is the value of y ?
 (A) 27
 (B) 54
 (C) 90
 (D) 117
 (E) 126
11. What is the best classification for the triangle?
 (A) Equilateral
 (B) Equiangular
 (C) Right isosceles
 (D) Obtuse isosceles
 (E) Acute isosceles

Gridded Answer

12. If $(4, 7)$ translates to $(-3, 9)$, what is the translated x -coordinate for the point $(10, -5)$?

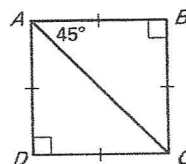
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4	5	6	7
8	9	0	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9

13. What is the value of y ?



0	1	2	3
4	5	6	7
8	9	0	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9

14. In the figure below, what is the measure of $\angle DAC$?



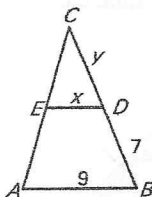
0	1	2	3
4	5	6	7
8	9	0	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9

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CHAPTER 5 **SAT/ACT Chapter Test**
For use after Chapter 5

Multiple Choice

In Exercises 1 and 2, use the following figure.



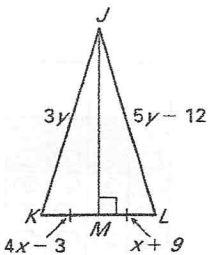
1. If \overline{DE} is the midsegment of $\triangle ABC$, what is the value of x ?

- (A) 4.5 (B) 7 (C) 9
(D) 14 (E) 18

2. What is the value of y ?

- (A) 4.5 (B) 7 (C) 9
(D) 14 (E) 18

In Exercises 3 and 4, use the following figure.



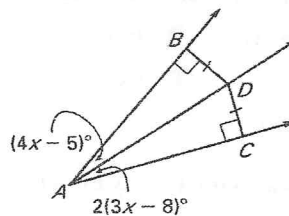
3. What is the length of \overline{LK} ?

- (A) 4 (B) 13 (C) 18
(D) 19 (E) 26

4. What is the length of \overline{JK} ?

- (A) 6 (B) 13 (C) 18
(D) 26 (E) 36

5. What is $m\angle BAC$?

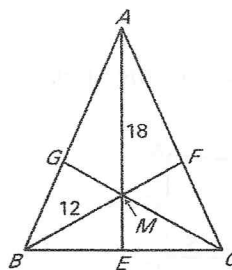


- (A) 4.5° (B) 5.5° (C) 17°
(D) 34° (E) 36°

6. Where is the point of concurrency located for the medians of an obtuse triangle?

- (A) inside the triangle
(B) on the triangle
(C) outside the triangle
(D) none of the above
(E) all of the above

7. If point M is the centroid of $\triangle ABC$, what is the length of \overline{AE} ?



- (A) 12
(B) 18
(C) 24
(D) 27
(E) 37

CHAPTER 5

SAT/ACT Chapter Test *continued*
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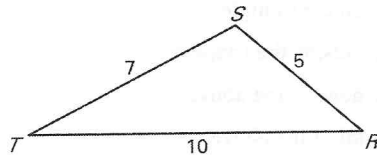
8. What is the point of concurrency for the perpendicular bisectors of a triangle called?

- (A) Circumcenter
- (B) Incenter
- (C) Median
- (D) Centroid
- (E) Orthocenter

9. Where does a centroid of any triangle always fall?

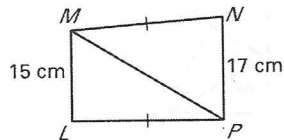
- (A) Outside
- (B) Inside
- (C) On a vertex
- (D) On a side
- (E) On two sides

10. What are the angles of the triangle listed from least to greatest?



- (A) $\angle R, \angle S, \angle T$
- (B) $\angle S, \angle T, \angle R$
- (C) $\angle T, \angle R, \angle S$
- (D) $\angle S, \angle R, \angle T$
- (E) $\angle T, \angle S, \angle R$

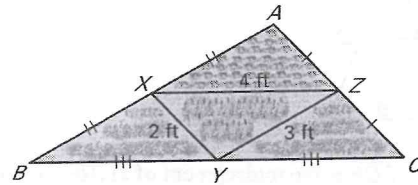
11. Using quadrilateral $LMNP$, which statement is true?



- (A) $m\angle LMP < m\angle NPM$
- (B) $m\angle LMP > m\angle NPM$
- (C) $m\angle LPM = m\angle NMP$
- (D) $m\angle LPM > m\angle NMP$
- (E) $m\angle LPM < m\angle NMP$

Gridded Answer

12. A garden is made up of 4 triangles. A gardener wants to put a fence around the garden to keep animals from eating the vegetables. How much fence should the gardener purchase?



	/	/	
.	.	.	.
0	0	0	0
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9

13. If the lengths of two sides of a triangle are 24 and 18, what is the largest possible integer length of the third side of the triangle?

	/	/	
.	.	.	.
0	0	0	0
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9