



SAT Math Practice

Topic: Angles, Parallel Lines, and Transversals

Instructions

Solve the following problems related to angles, parallel lines, and transversals. Show all work clearly. For multiple-choice questions, circle the correct answer. For grid-in questions, fill in the grid with your answer.

Practice Problems

1. If two parallel lines are cut by a transversal, what is the relationship between the alternate interior angles?
 - (a) They are congruent.
 - (b) They are supplementary.
 - (c) They are complementary.
 - (d) They are equal in measure but not necessarily congruent.
2. If $\angle 1$ and $\angle 2$ are consecutive interior angles and the lines are parallel, what is the sum of the two angles?
 - (a) 90°
 - (b) 180°
 - (c) 270°
 - (d) 360°

3. If two parallel lines are cut by a transversal and the corresponding angles are 120° , what is the measure of the alternate exterior angle?
- (a) 60°
 - (b) 120°
 - (c) 180°
 - (d) 90°
4. What type of angles are formed by a transversal intersecting two parallel lines?
- (a) Corresponding angles
 - (b) Vertical angles
 - (c) Alternate exterior angles
 - (d) All of the above
5. If two parallel lines are cut by a transversal, what is the relationship between the consecutive exterior angles?
- (a) They are complementary.
 - (b) They are supplementary.
 - (c) They are congruent.
 - (d) They are equal in measure but not congruent.
6. In the diagram, $\angle 3$ and $\angle 4$ are supplementary. What can be concluded about the lines?
- (a) The lines are perpendicular.
 - (b) The lines are parallel.
 - (c) The lines are skew.
 - (d) No information can be concluded.
7. If $\angle 1 = 80^\circ$ and $\angle 2$ is the alternate interior angle to $\angle 1$, what is the measure of $\angle 2$?
- (a) 80°
 - (b) 100°
 - (c) 60°
 - (d) 40°

8. In the figure, $\angle 3 = 45^\circ$ and $\angle 4$ is vertically opposite to $\angle 3$. What is the measure of $\angle 4$?
- (a) 45°
 - (b) 135°
 - (c) 90°
 - (d) 180°
9. If $\angle 1$ and $\angle 2$ are alternate exterior angles formed by a transversal cutting through two parallel lines, what can be said about these two angles?
- (a) They are supplementary.
 - (b) They are congruent.
 - (c) They are complementary.
 - (d) There is no relationship.
10. If the sum of the consecutive interior angles on the same side of the transversal is 160° , what is the measure of each of the consecutive exterior angles?
- (a) 20°
 - (b) 60°
 - (c) 80°
 - (d) 100°
11. Find the measure of the corresponding angle to $\angle 5 = 70^\circ$ formed by a transversal intersecting two parallel lines.
- (a) 70°
 - (b) 90°
 - (c) 110°
 - (d) 45°
12. In the figure, if $\angle 1 = 50^\circ$ and is a vertical angle to $\angle 2$, what is the measure of $\angle 2$?
- (a) 50°
 - (b) 40°
 - (c) 100°
 - (d) 130°

13. Given two parallel lines cut by a transversal, if one of the alternate interior angles is 35° , what is the measure of the corresponding angle?
- (a) 35°
 - (b) 55°
 - (c) 45°
 - (d) 65°
14. Solve for x : In a right triangle with one angle measuring 45° , find the other two angles using the property of parallel lines and transversals.
- (a) 45°
 - (b) 90°
 - (c) 75°
 - (d) 60°
15. Find the value of x in the transversal intersecting two parallel lines such that the sum of $\angle 1$ and $\angle 2$ is 180° .
(Grid-in Question: Answer in the grid as a number.)
16. If $\angle 1 = 120^\circ$, find the corresponding angle formed by a transversal cutting through parallel lines.
(Grid-in Question: Answer in the grid as a number.)
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Answer Key

- 1. (a) They are congruent.
- 2. (b) 180°
- 3. (b) 120°
- 4. (d) All of the above
- 5. (b) They are supplementary.
- 6. (a) The lines are perpendicular.
- 7. (a) 80°
- 8. (a) 45°

- 9. (b) They are congruent.
- 10. (c) 80°
- 11. (a) 60
- 12. (a) 70°
- 13. (a) 50°
- 14. (a) 35°
- 15. $x = 20$ (Grid-in answer)
- 16. 60° (Grid-in answer)

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