

Chapter Standardized Test

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** If $\frac{a}{b} = \frac{m}{n}$, then which of the following is not necessarily true?

(A) $\frac{a}{m} = \frac{b}{n}$ (B) $\frac{a}{n} = \frac{b}{m}$
(C) $an = bm$ (D) $\frac{b}{a} = \frac{n}{m}$
(E) $\frac{a+b}{b} = \frac{m+n}{n}$

2. **MULTIPLE CHOICE** Simplify $\frac{20\text{ft}}{5\text{yd}}$.

(A) $\frac{1}{4}$ (B) $\frac{3}{4}$ (C) $\frac{5}{4}$
(D) $\frac{4}{3}$ (E) $\frac{4}{1}$

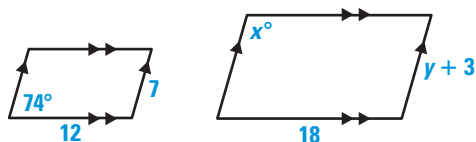
3. **MULTIPLE CHOICE** The perimeter of a parallelogram is 54. The ratio of the lengths of the sides is 2:7. What are the lengths of the sides?

(A) 4 and 14 (B) 8 and 28
(C) 6 and 21 (D) 24 and 30
(E) 12 and 42

4. **MULTIPLE CHOICE** Which of the following pairs of numbers has a geometric mean of 64?

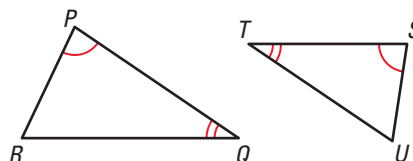
(A) 4 and 6 (B) 16 and 256
(C) 32 and 96 (D) 2 and 32
(E) 2 and 1024

5. **MULTIPLE CHOICE** The two polygons shown are similar. What are the values of x and y ?



(A) $x = 74^\circ, y = \frac{15}{2}$ (B) $x = 106^\circ, y = 10.5$
(C) $x = 74^\circ, y = 10.5$ (D) $x = 106^\circ, y = 10$
(E) $x = 106^\circ, y = \frac{15}{2}$

6. **MULTIPLE CHOICE** The triangles shown are similar. Which of the following is *not* a correct statement?



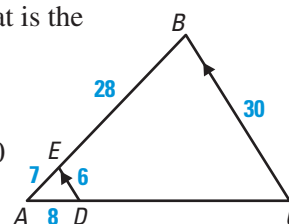
(A) $\triangle PQR \sim \triangle STU$ (B) $\frac{PR}{TU} = \frac{PQ}{ST}$
(C) $\frac{TU}{QR} = \frac{TS}{QP}$ (D) $\frac{RQ}{UT} = \frac{RP}{US}$
(E) $\triangle QPR \sim \triangle TSU$

7. **MULTIPLE CHOICE** You use a pantograph to enlarge a drawing of a car that is 4 inches long. You want your enlargement to be 12 inches long. What is the scale factor of the enlargement to the drawing?

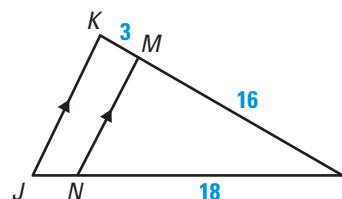
(A) 3 to 1 (B) 4 to 1 (C) 1 to 3
(D) 1 to 4 (E) 1 to 2

8. **MULTIPLE CHOICE** What is the perimeter of $\triangle ABC$?

(A) 90 (B) 97
(C) 98 (D) 100
(E) 105

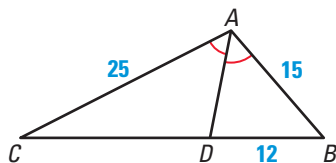


9. **MULTIPLE CHOICE** What is JN ?



(A) 3 (B) $\frac{27}{8}$
(C) 3.5 (D) 4
(E) 5

10. **MULTIPLE CHOICE** What is CD ?

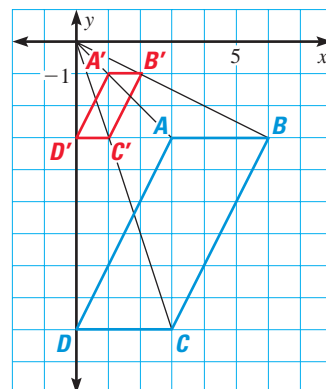


- (A) 7.2 (B) 15 (C) 20 (D) 24 (E) 31.25

QUANTITATIVE COMPARISON In Exercises 11 and 12, use the dilation shown to choose the statement that is true about the given quantities.

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

	Column A	Column B
11.	The perimeter of the preimage	The perimeter of the image
12.	The scale factor of the dilation	$\frac{1}{3}$



MULTI-STEP PROBLEM In Exercises 13–17, use the table, which shows the color popularity survey results for sport/compact cars manufactured during the 1997 model year in North America.

13. Find the ratio of the number of medium red cars to the number of dark green cars.
 14. Find the ratio of the number of purple cars to the number of bright red cars.
 15. Suppose that in 1997 a manufacturer produced cars in colors that approximate the percents given in the table. If the manufacturer produced 12,560 sport/compact cars in 1997, how many would be dark blue?
 16. Suppose a car dealer is ordering 800 sport/compact cars. How many light brown cars should he order?
 17. *Writing* Explain why you do not need to know the total number of cars manufactured to find the ratios in Exercises 13 and 14.

Color	Percent
white	14%
black	13%
bright red	9%
silver	6%
purple	3%
medium red	8%
dark green	20%
light brown	13%
bright blue	3%
dark blue	5%
other	6%

MULTI-STEP PROBLEM In Exercises 18–21, use the diagram shown, where $ABCD \sim EFGD$.

18. a. $ED = \underline{\quad? \quad}$ b. $BC = \underline{\quad? \quad}$
 c. $EF = \underline{\quad? \quad}$ d. $m\angle DGF = \underline{\quad? \quad}$

19. Find the scale factor of $ABCD$ to $EFGD$.
 20. What is the perimeter of $ABCD$? and $EFGD$?
 21. Find the ratio of the perimeter of $ABCD$ to the perimeter of $EFGD$.

