

PRACTICE TEST C

Answer Sheet

Directions: For each question, darken the oval that corresponds to your answer choice. Mark only one oval for each question. If you change your mind, erase your answer completely.

Section 1

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Section 2

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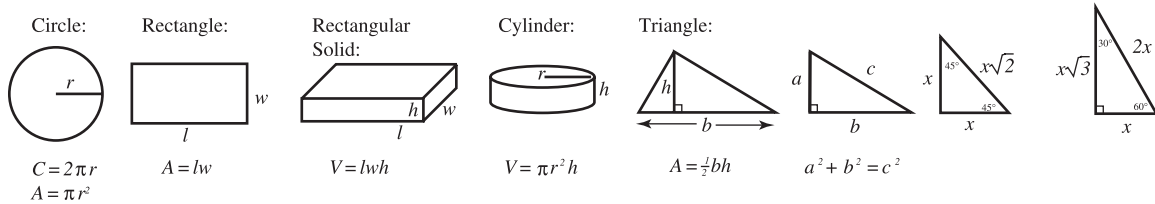
Note: Only the answers entered on the grid are scored. Handwritten answers at the top of the column are *not* scored.

PRACTICE TEST C

Section 1

25 Questions

Time: 30 Minutes



The number of degrees of arc in a circle is 360.
The measure in degrees of a straight angle is 180.
The sum of the measures in degrees of the angles of a triangle is 180.

- $8 \cdot 8 = 4^x$. Find x .
(A) 2
(B) 3
(C) 4
(D) 5
(E) 6
- If $a > 2$, which of the following is the smallest?
(A) $\frac{2}{a}$
(B) $\frac{a}{2}$
(C) $\frac{a+1}{2}$
(D) $\frac{2}{a+1}$
(E) $\frac{2}{a-1}$
- Which of the following has the greatest value?
(A) $\frac{1}{2}$
(B) $\sqrt{2}$
(C) .2
(D) $(.2)^2$
(E) $(.02)^3$
- If $\frac{a}{b} = \frac{3}{4}$, then $12a =$
(A) $3b$
(B) b
(C) $9b$
(D) $12b$
(E) $16b$
- If $a = b$ and $\frac{1}{c} = b$, then $c =$
(A) a
(B) $-a$
(C) b
(D) $\frac{1}{a}$
(E) $-b$
- If a building B feet high casts a shadow F feet long, then, at the same time of day, a tree T feet high will cast a shadow how many feet long?
(A) $\frac{FT}{B}$
(B) $\frac{FB}{T}$
(C) $\frac{B}{FT}$
(D) $\frac{TB}{F}$
(E) $\frac{T}{FB}$
- The vertices of a triangle are (3,1) (8,1) and (8,3). The area of this triangle is
(A) 5
(B) 10
(C) 7
(D) 20
(E) 14

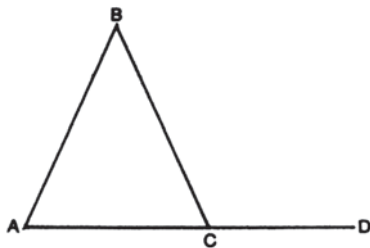
8. Of 60 employees at the Star Manufacturing Company, x employees are female. If $\frac{2}{3}$ of the remainder are married, how many unmarried men work for this company?

- (A) $40 - \frac{2}{3}x$
 (B) $40 - \frac{1}{3}x$
 (C) $40 + \frac{1}{3}x$
 (D) $20 - \frac{2}{3}x$
 (E) $20 - \frac{1}{3}x$

9. A circle whose center is at the origin passes through the point whose coordinates are (1,1). The area of the circle is

- (A) π
 (B) 2π
 (C) $\sqrt{2\pi}$
 (D) $2\sqrt{2\pi}$
 (E) 4π

10. In triangle ABC , $AB = BC$ and AC is extended to D . If angle BCD contains 100° , find the number of degrees in angle B .



- (A) 50
 (B) 80
 (C) 60
 (D) 40
 (E) 20

11. $\frac{4\frac{1}{2}}{10\frac{1}{8}}$

- (A) $\frac{2}{5}$
 (B) $\frac{4}{9}$
 (C) $\frac{4}{81}$
 (D) $\frac{3}{7}$
 (E) $\frac{15}{22}$

12. Which of the following is greater than $\frac{1}{3}$?

- (A) .33
 (B) $\left(\frac{1}{3}\right)^2$
 (C) $\frac{1}{4}$
 (D) $\frac{1}{.3}$
 (E) $\frac{.3}{2}$

13. What percent of a half dollar is a penny, a nickel, and a dime?

- (A) 16
 (B) 8
 (C) 20
 (D) 25
 (E) 32

14. If $\frac{1}{a} + \frac{1}{b} = \frac{1}{c}$ then $c =$

- (A) $a + b$
 (B) ab
 (C) $\frac{a+b}{ab}$
 (D) $\frac{ab}{a+b}$
 (E) $\frac{1}{2}ab$

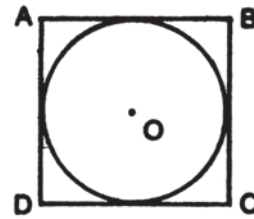
15. What percent of a is b ?

- (A) $\frac{100b}{a}$
 (B) $\frac{a}{b}$
 (C) $\frac{b}{100a}$
 (D) $\frac{b}{a}$
 (E) $\frac{100a}{b}$

16. The average of two numbers is A . If one of the numbers is x , the other number is

- (A) $A - x$
 (B) $\frac{A}{2} - x$
 (C) $2A - x$
 (D) $\frac{A+x}{2}$
 (E) $x - A$

17. If $a = 5b$, then $\frac{3}{5}a =$
- (A) $\frac{5b}{3}$
 (B) $3b$
 (C) $\frac{3b}{5}$
 (D) $\frac{b}{3}$
 (E) $\frac{b}{5}$
18. A rectangular door measures 5 feet by 6 feet 8 inches. The distance from one corner of the door to the diagonally opposite corner is
- (A) 9'4"
 (B) 8'4"
 (C) 8'3"
 (D) 9'6"
 (E) 9'
19. Two ships leave from the same port at 11:30 A.M. If one sails due east at 20 miles per hour and the other due south at 15 miles per hour, how many miles apart are the ships at 2:30 P.M.?
- (A) 25
 (B) 50
 (C) 75
 (D) 80
 (E) 35
20. If m men can paint a house in d days, how many days will it take $m + 2$ men to paint the same house?
- (A) $d + 2$
 (B) $d - 2$
 (C) $\frac{m+2}{md}$
 (D) $\frac{md}{m+2}$
 (E) $\frac{md+2d}{m}$
21. Ken received grades of 90, 88, and 75 on three tests. What grade must he receive on the next test so that his average for these 4 tests is 85?
- (A) 87
 (B) 92
 (C) 83
 (D) 85
 (E) 88
22. There is enough food at a picnic to feed 20 adults or 32 children. If there are 15 adults at the picnic, how many children can still be fed?
- (A) 10
 (B) 8
 (C) 16
 (D) 12
 (E) 4
23. In parallelogram $ABCD$, angle A contains 60° . The sum of angle B and angle D must be
- (A) 120°
 (B) 300°
 (C) 240°
 (D) 60°
 (E) 180°
24. The area of circle O is 64π . The perimeter of square $ABCD$ is



- (A) 32
 (B) 32π
 (C) 64
 (D) 16
 (E) 64π
25. If a train covers 14 miles in 10 minutes, then the rate of the train in miles per hour is
- (A) 140
 (B) 112
 (C) 84
 (D) 100
 (E) 98

Section 2

25 Questions

Time: 30 Minutes

Directions: Solve each of the following problems. Write the answer in the corresponding grid on the answer sheet and fill in the ovals beneath each answer you write. Here are some examples.

Answer: $3/4$ ($-.75$; show answer either way)

Answer: 325

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Note: A mixed number such as $3 \frac{1}{2}$ must be gridded as $7/2$ or as 3.5 . If gridded as “ $3 \frac{1}{2}$,” it will be read as “thirty-one halves.”

Note: Either position is correct.

- If $\frac{8}{8}$ of $\frac{3}{8}$ is added to $\frac{3}{8}$, what is the result?
- If $2^{n-3} = 32$ what is the value of n ?
- In a group of 40 students, 25 applied to Columbia and 30 applied to Cornell. If 3 students applied to neither Columbia nor Cornell, how many students applied to both schools?
- If $x^2 - y^2 = 100$ and $x - y = 20$, what is the value of $x + y$?
- A gallon of water is added to 6 quarts of a solution that is 50% acid. What percent of the new solution is acid?
- A gasoline tank is $\frac{1}{4}$ full. After adding 10 gallons of gasoline, the gauge indicates that the tank is $\frac{2}{3}$ full. Find the capacity of the tank in gallons.
- If $(x - y)^2 = 40$ and $x^2 + y^2 = 60$, what is the value of xy ?
- If $2.5 \text{ cm} = 1 \text{ in.}$ and $36 \text{ in.} = 1 \text{ yd.}$, how many centimeters are in 1 yard?
- How much more is $\frac{1}{4}$ of $\frac{1}{3}$ than $\frac{1}{3}$ of $\frac{1}{4}$?
- If the average of 5 consecutive even integers is 82, what is the largest of these integers?