

PRACTICE FOR THE ACT MATH TEST

MATHEMATICS TEST

60 Minutes—60 Questions

DIRECTIONS: After solving each problem, pick the correct answer from the five given and fill in the corresponding oval on your answer sheet. Solve as many problems as you can in the time allowed. Do not worry over problems that take too much time; skip them if necessary and return to them if you have time.

Calculator use is permitted on the test. Calculators can be used for any problem on the test, though calculators may be more harm than help for some questions.

Note: unless otherwise stated on the test, you should assume that:

1. Figures accompanying questions are not drawn to scale.
 2. Geometric figures exist in a plane.
 3. When given in a question, "line" refers to a straight line.
 4. When given in a question, "average" refers to the arithmetic mean.
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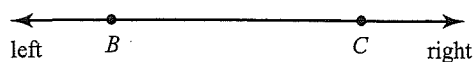
PRACTICE SET 1: PRE-ALGEBRA

1. Samantha had 3 more cookies than Arthur. Then Arthur gave her 4 of his cookies. Now how many more cookies does Samantha have than Arthur?
 - A. 8
 - B. 9
 - C. 10
 - D. 11
 - E. 12

2. The daily totals of dinner customers served at the Little Chef restaurant last Tuesday through Sunday were 232, 263, 298, 472, 451, and 372. What was the average number of lunch customers served each day?
 - F. 2,088
 - G. 872
 - H. 567
 - J. 451
 - K. 348

3. Adrian has 5 striped shirts and 6 solid-colored shirts hanging together in his closet. In his haste to get to his appointment, he randomly grabs 1 of these 11 shirts. What is the probability the shirt that Adrian grabs is solid-colored?
- A. $\frac{1}{5}$
B. $\frac{5}{6}$
C. $\frac{1}{11}$
D. $\frac{5}{11}$
E. $\frac{6}{11}$
4. A package of 12 pencils is priced at \$1.20 now. If the pencils go on sale for 25% off the current price, what will be the sale price of the package?
- F. \$0.60
G. \$0.70
H. \$0.80
J. \$0.90
K. \$1.00
5. What is the 317th digit after the decimal point in the repeating decimal $0.\overline{68423}$?
- A. 8
B. 6
C. 4
D. 3
E. 2
6. What is the value of $|9 - x|$ if $x = 11$?
- F. -2
G. -1
H. 1
J. 2
K. 3
7. $\frac{1}{4} \cdot \frac{2}{5} \cdot \frac{3}{6} \cdot \frac{4}{7} \cdot \frac{5}{8} \cdot \frac{6}{9} \cdot \frac{7}{10} \cdot \frac{8}{11} = ?$
- A. $\frac{2}{15}$
B. $\frac{1}{99}$
C. $\frac{1}{165}$
D. 2
E. $\frac{11}{2}$

8. On the real number line below, numbers increase in value from left to right, and C is negative. The value of B must be:



- F. positive
 G. negative
 H. greater than C
 J. between 0 and C
 K. equal to 0
9. Marissa has a basket of red, yellow, and pink roses in a ratio of 6:3:2. The basket contains a total of 44 roses. How many pink roses are in the basket?
- A. 2
 B. 6
 C. 8
 D. 12
 E. 14
10. Charles A. Lindbergh's airplane *Spirit of St. Louis* was 27 feet, 8 inches long, with a 46-foot wingspan. If you are making a $\frac{1}{15}$ scale model of this airplane, what should be the length of the model's wingspan, in feet?
- F. $\frac{1}{15}$
 G. $1\frac{1}{15}$
 H. $3\frac{1}{15}$
 J. $3\frac{7}{15}$
 K. $3\frac{11}{15}$
11. Delivery costs for Ocean Beach Hardware increased by 45% because the store moved further away from the warehouse. If it cost Ocean Beach Hardware \$90 to ship tools before the store moved, how much would it cost to ship the same tools after the move?
- A. \$49.50
 B. \$62.75
 C. \$130.50
 D. \$165.25
 E. \$180.00

12. $(8d^3 - 3de^2 + 2e) - (6e - 5d^3 - 4de^2)$ is equivalent to:
- F. $2d^3 + 8de^2 + 6e$
 - G. $13d^3 - 7de^2 - 4e$
 - H. $3d^3 - 7de^2 + 4e$
 - J. $13d^3 + de^2 - 4e$
 - K. $3d^3 - 8de^2 + 2e$
13. What are the next three numbers in the series $100 + 50 + 25 + \frac{25}{2} + \frac{25}{4} + \dots$?
- A. $\frac{25}{6} + \frac{25}{8} + \frac{25}{10}$
 - B. $\frac{25}{8} + \frac{25}{16} + \frac{25}{32}$
 - C. $\frac{50}{8} + \frac{75}{16} + \frac{100}{32}$
 - D. $\frac{25}{5} + \frac{25}{6} + \frac{25}{7}$
 - E. $\frac{50}{6} + \frac{75}{8} + \frac{100}{10}$
14. What number is a multiple of 12, 16, and 18?
- F. 192
 - G. 216
 - H. 288
 - J. 1,736
 - K. 3,455
15. $(-5a^4)^3$ is equivalent to:
- A. $125a^{12}$
 - B. $125a^7$
 - C. $-5a^{12}$
 - D. $-125a^7$
 - E. $-125a^{12}$