

SAMPLE MATH PLACEMENT TEST A

Math Placement Test A is designed for students who need to place into certain science courses. It is appropriate for students who are not so comfortable with algebra.

The questions on this sample test are similar to the questions on Test A in format and level of difficulty. However, not all of the topics or types of questions that are on Test A are included here.

The Topics on Test A can be classified into two types, Arithmetic and Skills and Basic Algebra. There are a total of 35 multiple-choice mathematics questions contained in Test A. Approximately two-thirds of the questions relate to Arithmetic and Skills and the other third on Basic Algebra.

Arithmetic and Skills questions focus on: Arithmetic of whole numbers, integers, fractions, and decimal fractions; positive integral exponents; square roots; the order of relation; percents; ratio, proportion, averaging, word problems; area, perimeter, volume; elementary linear equations; formula evaluation; graph and table interpretation.

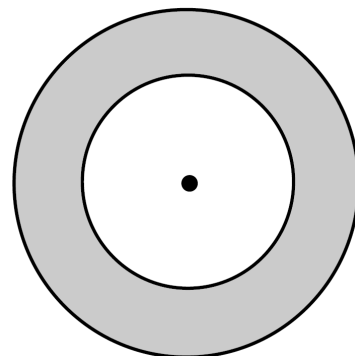
Basic Algebra questions focus on: Arithmetic of rational numbers, operations with algebraic expressions, linear equations and inequalities, factoring and algebraic functions, exponents and radicals, graphing and distance, fractional and quadratic equations, inequalities, absolute values, systems of equations.

1. $25.01 + 36.5 + 200.35 =$

- (A) 81.545 (B) 228.91 (C) 229.01 (D) 261.41 (E) 261.86

2. What is the area in square inches of the region between two concentric circles of radii 5 inches and 3 inches? See the figure.

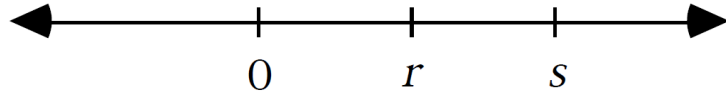
- (A) 2π (B) 4π (C) 9π
(D) 16π (E) 25π



3. An article usually sells for \$8.00 but is on sale at 20% off. If there is a sales tax of 5%, the total cost to the buyer of the article is

- (A) \$6.00 (B) \$6.08 (C) \$6.40 (D) \$6.72 (E) \$6.80

4. Let two numbers r and s be located on a number line as shown below. Which one of the following is true?



- (A) $r > s > 0$ (B) $s < 0 < r$ (C) $0 > s > r$ (D) $0 > r > s$ (E) $0 < r < s$

5. If $\frac{4}{3}x - \frac{1}{2} = 0$, then $x =$

- (A) $\frac{3}{8}$ (B) $\frac{2}{3}$ (C) $\frac{3}{2}$ (D) $\frac{11}{6}$ (E) $\frac{8}{3}$

6. $-5[4 - (-3)(2)] =$

- (A) -70 (B) -50 (C) -10 (D) 5 (E) 10

7. Which of these is the largest?

- (A) 8 (B) 10 (C) 3 (D) $\frac{5}{3}$ (E) 2.78

8. $(xy^3)^2 =$

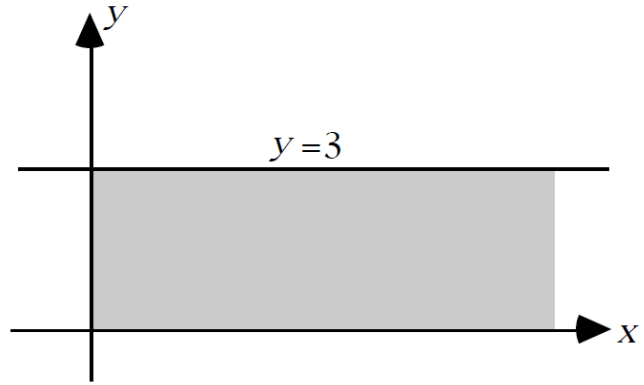
- (A) $x^2 y^3$ (B) $x^2 y^6$ (C) $(xy)^6$ (D) $x^2 y^5$ (E) $(xy)^5$

9. $\sqrt{3}(\sqrt{3} + 2) =$

- (A) $9 + 2\sqrt{3}$ (B) 5 (C) $3 + 2\sqrt{3}$ (D) $\sqrt{3} + 2\sqrt{3}$ (E) 11

10. The shaded area (including the boundary) represents the graph of which of the following sets of inequalities?

- (A) $x \leq 3$ and $y \leq 3$
- (B) $x \leq 3$ and $y \geq 0$
- (C) $0 \leq x \leq 3$ and $y \geq 0$
- (D) $y \leq 3$ and $x \geq 0$
- (E) $0 \leq y \leq 3$ and $x \geq 0$



11. $\frac{x-3}{8} - \frac{7}{4} = \frac{5}{8}$ has a solution of

- (A) -12
- (B) -6
- (C) 15
- (D) 16
- (E) 22

12. If $x^2 + 2x = 3$ then x could equal

- (A) -3
- (B) -2
- (C) -1
- (D) 0
- (E) 3

13. $x^3(2x^{-2} + 4x) =$

- (A) $2x + 4x^4$
- (B) $2x^{-6} + 4x^3$
- (C) $2x^5 + 4x^4$
- (D) $2x + 4x$
- (E) $2x^{-5} + 4x^4$

14. When factored, $y^2 - 7y + 12 =$

- (A) $y(y - 7) + 12$
- (B) $y(y - 7) + 5$
- (C) $(y + 2)(y + 6)$
- (D) $(y + 3)(y + 4)$
- (E) $(y - 3)(y - 4)$

Answers: 1(E), 2(D), 3(D), 4(E), 5(A), 6(B), 7(B), 8(B), 9(C), 10(E), 11(E), 12(A), 13(A), 14(E)