

TYPICAL QUESTIONS FROM COMPETENCY AREAS OF THE A - LEVEL MATH PLACEMENT TEST

Note: This test is for students who have had fewer than four years of high school mathematics, and who would like to enroll in MATH 102, 104, 105 or 170. Students who would like to verify readiness for MATH 201 (Calculus I) should take the B - level test, not this test.

1. Elementary numeric and algebraic operations.

$$\frac{c}{d} + 2 =$$

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

2. Rational expressions.

$$\frac{c - d}{\frac{1}{d} - \frac{1}{c}} =$$

- (A) $\frac{c + 2d}{d}$ (B) $\frac{cd}{c - d}$ (C) cd (D) $-cd$ (E) $\frac{1}{cd}$

3. Exponents and radicals.

$$\sqrt{3} + \sqrt{27} =$$

- (A) 6 (B) $3\sqrt{3}$ (C) $4\sqrt{3}$ (D) $10\sqrt{3}$ (E) $\sqrt{30}$

4. Linear equations; inequalities; absolute value.

If $3x + 2y = 8$ and $y = x - 1$, then $x =$

- (A) -6 (B) $\frac{6}{5}$ (C) $\frac{7}{5}$ (D) $\frac{9}{5}$ (E) 2

5. Polynomials; quadratic equations.

One of the roots of $(x - 2)(3x + 4) = 0$ is

- (A) -2 (B) $-\frac{4}{3}$ (C) $-\frac{3}{4}$ (D) $\frac{3}{4}$ (E) $\frac{4}{3}$

6. The coordinate plane and graphing.

Which of the following is an equation of a line with slope 3 and y-intercept -4 ?

- (A) $y = \frac{1}{3}x - 4$ (B) $y = 3x + 4$ (C) $y = 3x - 4$ (D) $y = 4x - 3$ (E) $y = 4x + 3$

7. Word problems.

A student who correctly answered 72 questions on a test received a score of 75%. How many questions were on the test?

- (A) 54 (B) 72 (C) 75 (D) 96 (E) 104