

SAMPLE MATHEMATICS PLACEMENT EXAMINATION For Required Parts 1 and 2

This is a sample of the kinds of questions that will be on Parts 1 and 2 of the Mathematics Placement Examination. The actual examination will have more questions and will not contain these exact questions.

The mathematics test covers operations with whole numbers, fractions, decimals, negative and positive numbers, and topics in elementary and intermediate algebra and geometry. Calculators will be permitted for use during testing. Only four-function, scientific, or graphing calculators are allowed; no other electronic devices. The following problems are examples of what may be found on the test.

1. $0.1 \div 0.002$
2. $0.5x + 2 = 0.2x - 7$
3. Evaluate the expression $L = 3c^2$, for $c = -3$
4. $\left(-\frac{3}{7}\right) \div \left(-3\frac{2}{11}\right)$
5. $5\frac{5}{6} + 6\frac{1}{14} - 7\frac{2}{3}$
6. Find x when $y = -8$, $y = -2x + 4$
7. Solve for a : $ab + b = 3a - d$
8. 25% of what is 30?
9. Solve for x and y : $\begin{cases} x + 3y = 4 \\ -2y + 3x = 1 \end{cases}$
10. Find the equation of the line passing through $(6,4)$ and $(-2,2)$.
11. Compute $3^4 - (-8.3)(-10) - 20$.
12. Find the area of the parallelogram with a side of 5.2 cm and a height of 0.11 cm.
13. Write the fraction in ordinary decimal form, $\frac{27}{20}$

Answers: 1) 50 2) -30 3) $L=27$ 4) $\frac{33}{245}$ 5) $4\frac{5}{21}$ 6) $x = 6$

7) $a = \frac{b+d}{3-b}$ 8) 120 9) $x=1, y=1$ 10) $y = \frac{1}{4}x + \frac{5}{2}$ 11) -22 12) 0.572 cm^2
13) 1.35

SAMPLE MATHEMATICS PLACEMENT EXAMINATION Part 3

This is a sample of the kinds of questions that will be on Part 3 of the Mathematics Placement Examination. The actual examination will have more questions and will not contain these exact questions. Remember, in addition to Parts 1 and 2, Part 3 of the examination is required for students in the following majors:

Biology
Education

Chemistry
Mathematics

Economics
Pharmacy

Topics Included in Part 3

Part 3 of the Mathematics Examination covers topics from polynomials (multiplication, division, factoring); rational, exponential, logarithmic functions; radical expressions and equations; quadratic equations; right triangle trigonometry; graphs of conic sections; and complex numbers. Calculators will be permitted for use during testing. Only four-function, scientific, or graphing calculators are allowed; no other electronic devices.

Sample Problems

Show all the steps.

- Find all the values of x : $\sqrt{2x+2} - \sqrt{x+2} = 1$
- Factor completely: $3x^4y^3 - 15x^3y^3 - 18x^2y^3$
- Find the quotient and the remainder: $(x^5 - 32) \div (x + 2)$

4. Simplify:
$$\frac{\frac{a}{1} - \frac{2b}{1}}{\frac{2b}{b^2} - \frac{a}{2a}}$$

Answers:

- $x = 7(x = -1, \text{reject})$
- $(3x^2y^3)(x+1)(x-6)$
- Quotient = $x^4 - 2x^3 + 4x^2 - 8x + 16$; Remainder = -64
- $\frac{(a^2 - 4b^2)b}{2a - b^2}$ or $\frac{(a - 2b)(a + 2b)b}{2a - b^2}$