



The Science and Technology Center
Charles Herbert Flowers High School
Mathematics Skills Assessment



The Science and Technology Program Mathematics Skills Test assess in-coming students' practical knowledge of the following Arithmetic, Algebra and Geometry skills.

Arithmetic Skills:

1. Addition of fractions/mixed numbers
2. Subtraction of fractions/mixed numbers
3. Division of fractions/mixed numbers
4. Addition of decimal numbers
5. Subtraction of decimal numbers
6. Multiplication of decimal numbers
7. Division of decimal numbers
8. Find a percent of a number
9. Change a fraction to a decimal representation

Geometry Skills:

1. Find and state collinear points;
2. Compute the length of a segment;
3. Compute the complement of a given angle;
4. Solve for X when given supplementary angles as algebraic expressions;
5. Find the coordinates of the midpoint of a segment;
6. Compute the sum of the measures of the interior angles of a given polygon;
7. Find the measure of angles given an exterior angle and several interior angles of a polygon;
8. Compute the area of a triangle;
9. Compute the length of a missing side in a 30/60/90 triangle;
10. Calculate the area of a trapezoid;
11. Compute the area of a regular polygon;
12. Compute the lateral area of a cone;
13. Compute the volume of a cylinder given the radius and height of the cylinder;
14. Compute the perimeter of a similar triangle;
15. Compute the length of a side in similar triangles.

Algebra Skills:

1. Evaluate: Order of operations;
2. Evaluate an algebraic expression;
3. Solve for the variable;
4. Solve for the variable-using the distributive property;
5. Solve for the variable-including fractions;
6. Write the equation of the line containing a given point and given slope. Write the equation in **Slope-Intercept Form**;
7. Write the equation of the line containing two given points. Write this equation in **Standard Form**;
8. Graph a line given in slope-intercept form and in standard form;
9. Solve a system of linear equations (your choice of method);
10. Solve an inequality and graph the solution on a number line;
11. Simplify-distribute a monomial over a polynomial;
12. Add two polynomials;
13. Subtract Two polynomials;
14. Multiply two polynomials;
15. Divide two polynomials-simplify by factoring
16. Factor a trinomial;
17. Factor the difference of two squares;
18. Factor completely;
19. Solve a quadratic equation by factoring (state all possible solutions);
20. Use the quadratic formula to solve a quadratic equation (state all possible solutions);
21. Graph a quadratic function;
22. Solve an equation that might be an identity or have no solution;
23. Solve and algebraic proportion;
24. Solve an algebraic equation with both fractions and the distributive property;
25. Write a linear equation for a given story problem.