

## Tompkins Cortland Community College – Mathematics Placement Program

### MATH 100 (Intermediate Algebra) Qualifying Test -

### Practice Problems

This practice test has been developed for your use to help prepare you to take the college's placement test for Math 100 (Intermediate Algebra) and to give you an idea of the skills necessary to be successful in that course. You are expected to have a solid foundation in beginning algebra skills. The questions below are similar to, but not identical to the questions on the placement test. If these questions seem too difficult or too easy for you, reconsider taking the Math 100 and speak with an advisor regarding alternatives. Answers (on separate sheet) should be consulted AFTER completion.

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- Evaluate:  
 $(-10) + 15 \div 5 - (-8)$
- Evaluate when  $a = 2$  and  $b = -3$ :  
 $ab + 2a^2 - ab^2$
- What is the value of  $C$  when  $F = 68$ ?  
 $C = \frac{5}{9}(F - 32)$
- Collect like terms:  
 $3x^2y + 2xy - x^2y - 4x$
- Perform the indicated operations and simplify:  
 $(g + 3)(g - 1)$
- Perform the indicated operations:  
 $(2x^3y)(3xy)(x^5y^3)$
- Factor into prime factors:  
 $x^2 + 7x + 12$
- Perform the indicated operations:  
 $(5ac^2)(3a^2c)^3$
- Divide:  
 $(5z^3 + 10z^2 + 15z) \div 5z$
- Multiply:  
 $(-3x)(2x^2 - 5x + 3)$
- Remove the grouping symbols:  
 $(5 + k) - (7 - 2k)$
- Add:  
 $(x^2 + 5x - 2) + (2x^2 - 2x - 5)$
- Solve for  $x$ :  
 $4x - 7 = 2x + 3$
- Solve for  $x$ :  
 $x^2 - x - 20 = 0$
- What is the slope of the line below?  
 $y = 4x - 5$
- Perform the indicated operations:  
 $(2g^2 - 3g + 1) - (g^2 - 2g - 4)$
- What is the area of a circle with a radius of 5 cm?  
 $(Area = \pi r^2 \text{ and } \pi = 3.14)$
- Write an algebraic expression for "twice the sum of a number and 6 equals fifteen divided by the number."
- Solve the following equation for  $n$ :  
 $pV = nRT$
- What is the area of a trapezoid which has bases of 8 cm and 12 cm and a height of 10 cm?  
 $(Area = \frac{1}{2}(B_1 + B_2)h)$