

Tompkins Cortland Community College – Mathematics Placement Program

MATH 135 (Precalculus) Qualifying Test -

Practice Problems Answer Sheet

Don't look at this sheet till you've worked all the test problems to the best of your ability. Then score yourself using the answers below.

Next to each answer you'll find the concept(s) that the question tested. To prepare for the real pretest, consult any textbook or tutor for that topic, and work some practice problems to bring your abilities up to snuff.

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| 1. 77 feet | Right-angle trigonometry (applications) |
| 2. $\sqrt{29}$ | Theorem of Pythagoras |
| 3. $\frac{14}{15}$ | Trig ratios; definitions of trig functions |
| 4. $\frac{\sqrt{29}}{14}$ | Trig ratios; definitions of trig functions |
| 5. $\frac{\sqrt{29}}{15}$ | Trig ratios; definitions of trig functions |
| 6. complement: 60° , supplement: 150° | Angles; radian measure |
| 7. Quadrants I and II | Trig functions of any angle |
| 8. $y = -4x + 10$ | Equation of a line; slope-intercept form |
| 9. $\frac{34x - 35}{14}$ | Adding and subtracting fractions |
| 10. $\frac{-\sqrt{5} + 7}{11}$ or $\frac{7 - \sqrt{5}}{11}$ | Rationalizing the denominator |
| 11. $x^3 y^2 \sqrt{xy}$ | Simplifying radicals |
| 12. $a^{\frac{9}{2}}$ | Rational exponents (or fractional exponents) |
| 13. $a^{10} b^3$ | Rules of exponents |
| 14. $15q^5$ | Multiplying monomials; rules of exponents |
| 15. $4p^2 - 28p + 49$ | Square of a binomial; $(a-b)^2$ |
| 16. $12a^2 - ab - 6b^2$ | Multiplying binomials |
| 17. $x^2 + 1$ | Multiplying powers; zeroth power |
| 18. 0 and -3 (you need both) | Quadratic equations; factoring; common monomial factor |
| 19. $\frac{8}{13}$ | Fractional equations; clearing fractions |
| 20. 2 and $\frac{1}{3}$ (you need both) | Absolute value equations |
| 21. $\frac{-3}{4}$ and $\frac{2}{3}$ (you need both) | Quadratic equations; factoring trinomials; quadratic formula |