

# PRECALCULUS MPT MATERIALS

## For Placement into Math 105

Review Material	Location
<p><b>1. Web site</b></p> <p>General MPT information.</p> <p>Sample questions and answers that highlight the most important topic areas covered in the Math Placement Test.</p> <p>Links to other sites with review material.</p>	<p><a href="http://www.capilanou.ca/math/Math-Placement-Test-(MPT)/">http://www.capilanou.ca/math/Math-Placement-Test-(MPT)/</a></p> <p><a href="http://www.capilanou.ca/math/Math-Placement-Test-(MPT)/#what-can-prepare">http://www.capilanou.ca/math/Math-Placement-Test-(MPT)/#what-can-prepare</a></p>
<p><b>2. Texts</b></p> <p><i>Intermediate Algebra</i> by E. Hubbard and R. Robinson.</p> <p><i>Intermediate Algebra</i> by T. Carson and B. Jordan.</p>	<p>On reserve in Library under MPT. On reserve in Math Learning Centre (BR 289).</p> <p>On reserve in Library under MPT.</p>
<p><b>3. Audio-Visual (and accompanying resources)</b></p> <p><i>The Video Tutor</i> (DVD) by Ted Bentley. The videos in this series begin by covering much of the content of an intermediate algebra course.</p> <p><i>The Video Tutor Guide</i> by Ted Bentley. This is a companion workbook for <i>The Video Tutor</i>. It contains examples for students to work through to accompany each video segment of <i>The Video Tutor</i>.</p>	<p>Library A/V Department (QA 154.2 M858 1992)</p> <p>Library A/V Department (QA 154.2 M858 1992)</p> <p>Capilano University Bookstore</p>

On the next page you will find a small selection of the online sample questions to help demonstrate the scope and level of difficulty of the Precalculus Math Placement Test.

# PRECALCULUS MPT SAMPLE QUESTIONS

**Important Note:** Calculators are not permitted when writing the Math Placement Test. In order to fully benefit from these practice problems, you should solve them without the aid of a calculator.

**Introduction to Algebra** Real number system; order of operations; equations; inequalities; applications.

True or false:  $(a - b) - c = a - (b - c)$

**Polynomials** Adding, subtracting, multiplying and dividing polynomials; factoring.

Perform the polynomial division  $(7 + x - 3x^3) \div (2x + 1)$  and give the quotient and the remainder.

Factor completely:  $5y^4 - 18y^2 - 8$

**Rational Expressions** Multiplying, dividing, adding, subtracting and simplifying rational expressions.

Express in reduced form:  $\frac{x^2 - x - 20}{x^2 + 7x + 12} \div \frac{x^2 - 10x + 25}{x^2 + 6x + 9}$

**Radicals and Rational Exponents** Expressing and simplifying roots in radical and rational exponent notation; rationalizing numerators and denominators; simplifying negative exponent forms.

Rewrite the expression so that it contains only positive exponents and simplify.

$$(3a^{-2} + b^{-2})^{-1}$$

**Equations and Inequalities** Solving linear and quadratic equations; linear inequalities; absolute value; applications.

Solve for  $x$ :  $\frac{1}{x} - \frac{2}{x+2} + \frac{1}{x+3} = 0$

A rectangle has a perimeter of 100 cm and an area of  $200 \text{ cm}^2$ . Find its dimensions.

**Geometry** Cartesian co-ordinate system; distance between points in the plane; equations of lines and circles; applications.

Determine the radius and centre of the circle defined by the equation  $x^2 + y^2 - 5x + 2y = 0$ .

Determine an equation for the line passing through the points  $(7, 2)$  and  $(-2, -1)$ .

Express the area of the trapezoid in terms of the length  $x$ .

