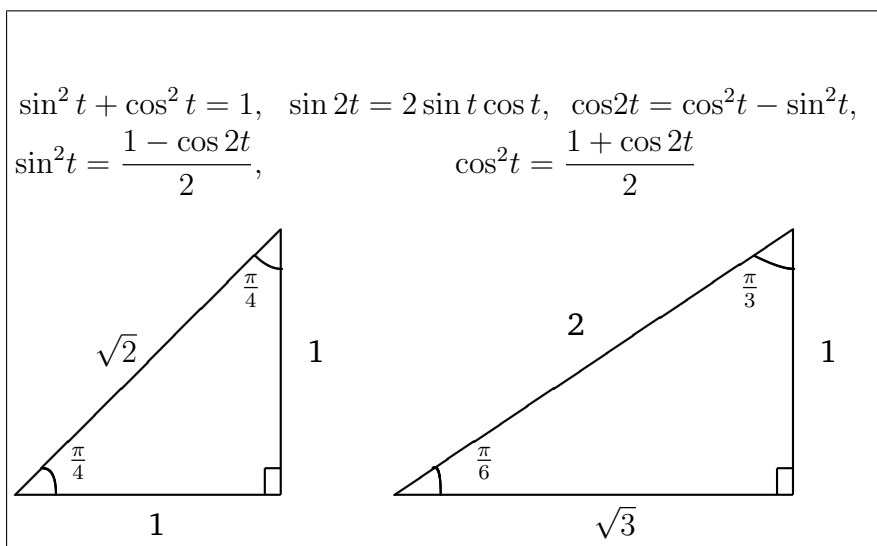


◇ Calculators will **not** be allowed.◇

- The final exam is cumulative (it covers the material from the entire term).
- Approximately 50% of the final exam is on material past Test 2.
- The following trigonometric identities and special triangles will be provided:

**Topics Covered:**

- Integration
- Parametric Curves
- Volumes of Solids of Revolution
- Arc Length
- Differential Equations (including applications, as in Assignment 5)
- Sequences, Series (convergence tests will not be provided)
- Power Series, Taylor/Maclaurin Series
- Polar Curves (sketching, area)
- Lines, Planes, Functions (exclude Section 10.5)
- Vector Fields, Line Integrals
- Vector Functions (exclude Sections 11.2, 11.5)

Highlights of Material for Assignment 10

Assignment 10 (not due) is a set of problems on topics from Chapters 11 and 13:

- Section 11.1: level curves / contour maps of $z = f(x, y)$; interpretation for surfaces
- Section 11.3: first partial derivatives $f_x \equiv \frac{\partial f}{\partial x}$, $f_y \equiv \frac{\partial f}{\partial y}$
- Section 11.4: tangent plane of $z = f(x, y)$ at a point
- Section 11.5: chain rule
- Section 11.6: gradient $\nabla f(x, y)$, directional derivative $D_{\vec{u}}f$, maximization of $D_{\vec{u}}f$
- Section 13.1: vector fields $\vec{F}(x, y, z)$ for $\vec{r} = \langle x, y, z \rangle$ and $x = x(t)$, $y = y(t)$, $z = z(t)$
- Section 13.2: line integrals $\int_C \vec{F} \cdot d\vec{r} = \int_a^b \vec{F}(\vec{r}(t)) \cdot \vec{r}'(t) dt$

Preparation

To prepare for the exam you can review Assignments 1 to 10 and their solutions and practice any problems in the lecture notes and textbook (examples and exercises) that seem similar. Also refer to the Test 1 and Test 2 Review information on UW-ACE.

Final Grade Calculation

Please be advised that your final grade will be calculated as the maximum of either:

- your final exam mark worth 100%
- the original Course Grade evaluation (assignments 10%, Test 1 20%, Test 2 20%, Final Exam 50%), as stated on the syllabus, where your lowest assignment mark will be excluded.

For example, if the original Course Grade yields a final grade of 65% but you earn a 70% on the final exam, you will receive a grade of 70%.

Good Luck!