

The following problems represent the absolute minimum knowledge necessary to have a chance of successful completion of **Math 260 (Pre-Calculus)**. If you are unable to answer these problems, you are strongly advised to take the course indicated for the materials.

**Minimum necessary knowledge from Intermediate Algebra (Math 125)**

1. Factor:  $6x^2 - 13x - 5$
2. Solve:  $\frac{1}{x-1} + \frac{1}{x+2} = \frac{5}{4}$
3. Solve:  $\log_5 x = 2$
4. Solve:  $e^x = 7$
5. Subtract:  $\frac{3}{(x-3)(x-1)} - \frac{2}{(x+1)(x-1)}$
6. Solve the nonlinear system of equation: 
$$\begin{cases} x^2 - y = 0 \\ x + y = 2 \end{cases}$$
7. Add:  $\sqrt[3]{2x^5} + 6x\sqrt[3]{54x^2}$

**Minimum necessary knowledge from Trigonometry (Math 240)**

8. If  $\cos t = \frac{3}{5}$  and  $t$  is in quadrant I, find the exact values of all the other trigonometric functions at  $t$ .
9. Find all the solutions in the interval  $[0, 2\pi)$ .  
 $2\sin x = -1$
10. Graph  $y = 2 + \cos x$  over a two-period interval.