The following problems represent the absolute minimum knowledge necessary to have a chance of successful completion of **Math 265 (Calculus I)**. If you are unable to answer these problems, you are strongly advised to take the course indicated for the material.

Minimum necessary knowledge from College Algebra or Pre-calculus (Math 245 or Math 260)

1. If $f(x) = x^2 + 2x - 7$, evaluate the difference quotient $\dfrac{f(2+h) - f(2)}{h}$.

2. Find the domain of the function $f(x) = \dfrac{\sqrt{x-1}}{x-4}$

3. If $f(x) = x^2 + 4x - 5$ and $g(x) = 3x + 2$, find $f \circ g$

4. Solve: $\begin{cases} x - y = 4 \\ x^2 + y^2 = 26 \end{cases}$

5. Solve: $3e^{5x-1} = 12$

Minimum necessary knowledge from Trigonometry (Math 240 or Math 260)

6. Covert $135°$ to Radians

7. Solve all the solutions for the equation $2\sin^2 x + \sin x = 1$ in the interval $[0, 2\pi)$

8. Given $\sin x = \dfrac{1}{4}$, find the exact value for $\tan x$.