The following problems represent the pre-knowledge necessary to be successful in mastering the content of Math 265 (Calculus I).

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

The material above represents concepts covered in College Algebra (Math 245) or Precalculus (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 $\left[0, 2\pi\right)$

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

The material above represents concepts covered in Trigonometry (Math 240) or Precalculus (Math 260).