

Name Key Score _____

Find the quotient using long division.

1) $\frac{y^2 + 10y + 25}{y + 5}$

 $(y+5)$

$$\begin{array}{r}
 y+5 \\
 y+5 \overline{) y^2 + 10y + 25} \\
 \underline{-(y^2 + 5y)} \\
 5y + 25 \\
 \underline{5y + 25} \\
 0
 \end{array}$$

$$\frac{(y+5)^2}{(y+5)} = y+5!$$

2) $\frac{x^4 + 6x^2 + 8}{x^2 + 1} = x^2 + 5 + \frac{3}{x^2 + 1}$

$$\begin{array}{r}
 x^2 + 5 \\
 x^2 + 0x + 1 \overline{) x^4 + 0x^3 + 6x^2 + 0x + 8} \\
 \underline{-(x^4 + 0x^3 + x^2)} \\
 5x^2 + 0x + 8 \\
 \underline{-(5x^2 + 0x + 5)} \\
 3
 \end{array}$$