Algebra I Worksheet #12 Unit 10 Selected Solutions

Perform the indicated division problems.

4. $(91x^8) \div (13x^4) = 7x^4$

6. $(10x^4 + 25x^3 - 5x^2) \div (-5x^2) = -2x^2 - 5x + 1$

9. $(18x^3 - 2x + 4) \div (6x + 4) = 3x^2 - 2x + 1$

$$
\begin{array}{r|l}
 & 3x^2 - 2x + 1 \\
\hline
6x + 4 & 18x^3 + 0x^2 - 2x + 4 \\
 & \underline{18x^3 + 12x^2} \\
 & \quad -12x^2 - 2x + 4 \\
 & \quad \underline{-12x^2 - 8x} \\
 & \qquad 6x + 4 \\
 & \qquad \underline{6x + 4} \\
 & \qquad\quad 0
\end{array}
$$

11. $(3x^5 - 4x^3 - x^2 - 15x + 3) \div (x^2 - 3) = 3x^3 + 5x - 1$

$$
\begin{array}{r|l}
 & 3x^3 \quad + 5x - 1 \\
\hline
x^2 - 3 & 3x^5 + 0x^4 - 4x^3 - 1x^2 - 15x + 3 \\
 & \underline{3x^5 \quad - 9x^3} \\
 & \quad 5x^3 - 1x^2 - 15x + 3 \\
 & \quad \underline{5x^3 \quad - 15x} \\
 & \qquad -1x^2 \quad + 3 \\
 & \qquad \underline{-1x^2 \quad + 3} \\
 & \qquad\qquad 0
\end{array}
$$