

Dividing Polynomials Practice

1. $\frac{4x^2y + 2xy^2 + 6xy}{xy}$

$$4x + 2y + 6$$

2. $\frac{24a^3b - 16a^3b^3 - 16a^2b^2}{4ab}$

$$6a^2 - 4a^2b^2 - 4ab$$

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

$$\frac{9x^2 - 6x + 1}{3x}$$

$$3x - 2 + \frac{1}{3x}$$

$$3\frac{1}{3}x - 2$$

4. $(2xy - 16xyz + 10x^2y^2) \div (-2xy)$

$$\frac{2xy - 16xyz + 10x^2y^2}{-2xy}$$

$$-1 + 8z - 5xy$$

$$-1 + 8z - 5xy$$

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

$$\begin{array}{r} -1 \overline{) 1 \quad -2 \quad -1 \quad 0 \quad -1} \\ \underline{+} \\ -1 \quad 3 \quad -2 \quad 2 \\ \hline 1 \quad -3 \quad 2 \quad -2 \quad 1 \end{array}$$

$$1 - 3 \quad 2 - 2 \quad 1$$

$$x^3 - 3x^2 + 2x - 2 + \frac{1}{x+1}$$

7. $(x^5 + 32) \div (x + 2)$

$$\begin{array}{r} -2 \overline{) 1 \quad 0 \quad 0 \quad 0 \quad 0 \quad 32} \\ \underline{-2 \quad 4 \quad -8 \quad 16 \quad -32} \\ 1 \quad -2 \quad 4 \quad -8 \quad 16 \quad 0 \end{array}$$

$$x^4 - 2x^3 + 4x^2 - 8x + 16$$

6. $(2a^4 - 6a^3 + 4a - 12) \div (a - 3)$

$$3 \overline{) 2 \quad -6 \quad 0 \quad 4 \quad -12}$$

$$6 \quad 0 \quad 0 \quad 12$$

$$\hline 2 \quad 0 \quad 0 \quad 4 \quad 0$$

$$2a^3 + 4$$

8. $(x^3 - x^2 - 17x - 17) \div (x + 3)$

$$-3 \overline{) 1 \quad -1 \quad -17 \quad -17}$$

$$-3 \quad -12 \quad 15$$

$$1 \quad -4 \quad -5 \quad -2$$

$$x^2 - 4x - 5 - \frac{2}{x+3}$$