Today's Plan:

Learning Target (standard): I will perform operations on polynomials.

Students will: Complete practice problems over previous concepts at the boards, put up homework problems on the board and make necessary corrections to their own work, and prepare for a quiz.

Teacher will: Provide practice problems over previous concepts, check homework problems for accuracy and provide students feedback, describe and provide practice problems over operations on polynomials.

Assessment: Board work, homework check and homework assignment

Differentiation: Students will work at the board, go over and correct homework at their seats, and actively engage in practice problems.

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p.131 #28-56 (by 4)

28) $4x - 7$

32) $x - 5 - \dfrac{24}{x+5}$

36) $3x - 5 + \dfrac{14}{x+4}$

40) $x^2 - 5x + 6$

44) $x^2 + 2x + 6 + \dfrac{17}{x-2}$

48) $5x^2 - 7x - 3 + \dfrac{12}{x+2}$

52) $2x^3 - 3x^2 - 4x + 1$

56) $x^3 - 5x^2 + 10x - 20 + \dfrac{10}{x+2}$

Simplify:

$$\frac{16x^2 - 13x^3 + 2x^4 - 9x + 20}{x - 5}$$

$$\boxed{\begin{array}{c} x - a \\ x + a \end{array}}$$

$$5 \, \bigg|\begin{array}{ccccc} 2 & -13 & 16 & -9 & 20 \\ \downarrow & 10 & -15 & 5 & -20 \\ \hline 2 & -3 & 1 & -4 & 0 \end{array}$$

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

Divide:

$$\frac{8x^3 - 38x^2 + 49x - 10}{4x - 1}$$

$$\boxed{2x^2 - 9x + 10}$$

$$\begin{array}{r} 2x^2 - 9x + 10 \\ 4x-1 \overline{\smash{\big)}\, 8x^3 - 38x^2 + 49x - 10} \\ \underline{-8x^3 + 2x^2} \\ -36x^2 + 49x - 10 \\ \underline{+36x^2 - 9x} \\ 40x - 10 \\ \underline{-40x + 10} \\ 0 \end{array}$$

Divide:

$$\frac{x^3 - 4x^2 + 2x - 1}{x^2 + 1}$$

$$x - 4 + \frac{x+3}{x^2+1}$$

$$\begin{array}{r} x - 4 \\ x^2+1 \overline{\smash{)}\, x^3 - 4x^2 + 2x - 1} \\ -x^3 \qquad\quad -x \\ \hline -4x^2 + x - 1 \\ +4x^2 \qquad +4 \\ \hline x + 3 \end{array}$$

Divide:

$$\frac{-6x^4 - 4x + 2}{4 - 2x} = \frac{-6x^4 - 4x + 2}{\boxed{-2x + 4}} = \frac{3x^4 + 2x - 1}{x - 2}$$

$$\begin{array}{c|ccccc} 2 & 3 & 0 & 0 & 2 & -1 \\ & \downarrow & 6 & 12 & 24 & 52 \\ \hline & 3 & 6 & 12 & 26 & 51 \end{array}$$

$$3x^3 + 6x^2 + 12x + 26 + \frac{51}{x-2}$$

Divide:

$$\frac{3x^3 - 7x + 1}{3 - x} = \frac{3x^3 - 7x + 1}{\boxed{-}x + 3} = \frac{-3x^3 + 7x - 1}{x - 3}$$

$$3 \,\big|\, \begin{array}{rrrr} -3 & 0 & 7 & -1 \\ \downarrow & -9 & -27 & -60 \\ \hline -3 & -9 & -20 & -61 \end{array}$$

$$-3x^2 - 9x - 20 + \frac{-61}{x-3}$$

Simplify.

$$(2x + 2x^2y^2 - 3y - 4x^4y^4) + (2x - x^2y^4 + 2y - xy^4) - (8x - 6xy^4)$$

$$2x + 2x^2y^2 - 3y - 4x^4y^4 + 2x - x^2y^4 + 2y - xy^4 - 8x + 6xy^4$$

$$-4x^4y^4 - x^2y^4 + 2x^2y^2 - 4x + 5xy^4 - y$$

Simplify.

$$\left(2^{-2}\right)^4 \cdot \left(2^2\right)^2$$

$$2^{-8} \cdot 2^4$$

$$2^{-4}$$

$$\frac{1}{2^4}$$

$$\frac{1}{16}$$

Assignment:

Polynomial Practice

#1-18

* QUIZ on Thursday *