

1.4 Notes – Long Division

1. Review

a. $3x^2(2x - 1)$

b. $(x^2 + 6x - 10) - (3x^2 - 6x + 5)$

c. $x \cdot \square = 4x^3$

d. $5x \cdot \square = 20x^4$

e. $2x \cdot \square = -2x^3$

2. Long Division Practice with No Calculator

a. $420 \div 24$

b. $2995 \div 22$

c. $6669 \div 42$

d. $4669 \div 62$

e. $9853 \div 63$

f. $8524 \div 56$

3. Things to remember when dividing polynomials:

- a. Just like long division with numbers
- b. Must be in Standard form
- c. Add a zero in place of any missing term.
- d. Remainders

3. Examples:

a. $\frac{x^2 - 9x - 10}{x + 1}$

b. $\frac{3x^3 - 5x^2 + 10x - 3}{3x + 1}$

c. $(2x^3 - 9x^2 + 15) \div (2x - 5)$

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