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| \*Learning Target: |
| \*Critical Content: |

-polynomial-

 -monomial-

 -binomial-

 -trinomial-

-degree of a polynomial-

Ex1: Determine if each expression is a monomial, binomial, trinomial, or neither. If it is a polynomial, find the degree.

a) $4y-5xz$ b) $-6.5$ c) $7a^{-3}+9b$ d) $6x^{3}+4x+x+3$

Ex2: Find the degree of the following polynomials: a) $3a^{2}b^{3}+6$ b) $2d^{3}-5c^{5}d-7$ c) $8xm^{2}y+2m+3m^{3}y^{2}$

-standard form of a polynomial-

-leading coefficient-

Ex3: Write the following polynomial in standard form
and identify the leading coefficient.

 a) $3x^{2}-4x^{5}-7x$ b) $5y-9-2y^{4}+6y^{3}$

Ex4: From 2000 through 2006, the number U of skateboards (in thousands) produced at a manufacturing plant can e modeled by the equation $U=3t^{2}-2t+10,$ where *t* is the number of years since 2000. How many skateboards were produced in 2002?

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| **Determine whether each expression is a polynomial. If so, identify the polynomial as a monomial, binomial, or trinomial.**  |
| 1) $\frac{5y^{3}}{x^{2}}+4x$ | 2) $c^{4}-2c^{2}+1$ | 3) $a-a^{2}$ | 4) $21$ |
| **Find the degree of each of the following polynomials.** |
| 5) $13-4ab+5a^{3}b$ | 6) $-4$ | 7) $10+2cd^{4}-6d^{2}g$ | 8) $2z^{2}y^{2}-7y^{5}w^{4}$ |
| **Write each polynomial in standard form. Identify the leading coefficient.** |
| 9) $5x^{2}-2+3x$ | 10) $4-3c-5c^{2}$ | 11) $11t+2t^{2}-3+t^{5}$ | 12) $\frac{1}{2}x-3x^{4}+7$ |
| 13) $8y+7y^{3}$ | 14) $-4d^{4}+1-d^{2}$ | 15) $2+r-r^{3}$ | 16) $-9b^{2}+10b-b^{6}$ |
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| 17) A firework shell is launches two feet from the ground at a speed of 150 feet per second. The height *H* of the firework shell is modeled by the equation $H=-16t^{2}+150t+2$, where *t* is the time in seconds. |
| a) How high will the firework be after 3 seconds? |
| b) How high will the firework be after 5 seconds? |