

Chapter 8 Level 4 Examples

A.SSE.1a—Interpret parts of expressions

Write a trinomial with $3a^2b^4$ as the GCF of its terms. EXPLAIN how you found your answer!!

w:11
Vary!

$$3a^2b^4(x+y+z)$$
$$3a^2b^4x + 3a^2b^4y + 3a^2b^4z$$

I used $3a^2b^4$ to multiply by a trinomial so that it was the greatest common factor of each term.

A.APR.1—Operations with polynomials

What is the surface area of a cylinder with a radius $(x + 7)$ and height $(x + 4)$? Write your answer as a simplified polynomial in terms of π .

$$SA = 2\pi r^2 + 2\pi rh$$
$$= 2\pi(x+7)^2 + 2\pi(x+7)(x+4)$$
$$2\pi(x^2 + 14x + 49) + 2\pi(x^2 + 11x + 28)$$
$$2\pi(2x^2 + 25x + 77) = 4\pi x^2 + 50\pi x + 154\pi$$

A.SSE.2—Factoring polynomials

Factor completely: $12x^4 + 12x^3 - 27x^2 - 27x$

$$3x(4x^3 + 4x^2 - 9x - 9)$$
$$3x[4x^2(x+1) - 9(x+1)]$$
$$3x(x+1)(4x^2 - 9)$$
$$3x(x+1)(2x-3)(2x+3)$$