1. Use the Greatest Common Factor to factor each polynomial.

    a) $8x + 8$ b) $5x - 30$

    c) $x^2 + 5x$ d) $14x^3 + 21x^2$

    e) $13y^2 - 25y$ f) $8x^2 - 4x^4$

    g) $9x^4 + 18x^3 + 6x^2$ h) $10x - 20x^2 + 5x^3$

   i) $6x^3y^2 + 9xy$ j) $32x^3y^2 - 24x^3y - 16x^2y$

2. There was a rectangular box with a square bottom. After you had computed the volume of the box, you had found that the volume was

$$18x^3 + 99x^2$$

measured in cubic inches, where x is in inches. What is one possibility for the dimensions of the box? This is not asking for actual number answers. You would say, "the box could have been ___ × ___ × ___" where the blanks have expressions that use the variable x.

3. Find an expression in x for the area of the shaded region. (The figure is not drawn to scale.) You could get the area of the square, and subtract the area of the circle.

$6x$

$6x$

$2x$
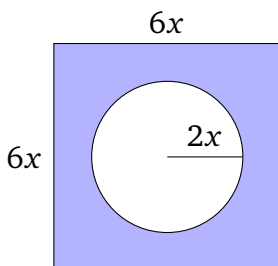
Then factor the expression using the greatest common factor.