



DATE:

SECTION:

OBJECTIVE:

**EXAMPLES:**

Write an equation in factored form and standard form for the function with the given zeros.

1.  $x = -7, x = \frac{1}{2}$

2.  $x = 2$  (multiplicity of 2),  $x = -3$

Find the zeros of each polynomial.

1.  $f(x) = 3x(x + 2)(5x - 4)$

2.  $f(x) = x^3 - 64x$

Simplify. (This means there are no \_\_\_\_\_ in the answer.)

1.  $\sqrt{24}$

2.  $\sqrt{-24}$

3.  $3\sqrt{121}$

4.  $\frac{8 \pm \sqrt{12}}{6}$

5.  $\frac{6 \pm \sqrt{-18}}{3}$

## Simplify complex numbers

Remember  $i^2 = \underline{\hspace{2cm}}$

### EXAMPLES:

**Simplify.**

6.  $(5i)(2i)$

7.  $(3 - 2i)(-4 + i)$

8.  $(x - 2 - i)(x - 2 + i)$

9.  $(x - 4 - 3i)(x - 4 + 3i)$

**Identity (not necessary to memorize):**

**Factor.**

1.  $f(x) = x^2 + 6x + 10$

2.  $f(x) = x^2 + 4$