

#11 diff of cubes!
 $a = 5x$
 $b = 3$
 $(a-b)(a^2+ab+b^2)$

$$125x^3 - 27 = 0$$

$$(5x)^3 - (3)^3 = 0$$

$$(5x-3)(25x^2+15x+9) = 0$$

$$x = \frac{-15 \pm \sqrt{225 - 900}}{50}$$

$$= \frac{-15 \pm \sqrt{-675}}{50}$$

$$= \frac{-15 \pm i\sqrt{675}}{50}$$

$$x = -\frac{15}{50} \pm \frac{15\sqrt{3}}{50}i$$

$$x = -\frac{3}{10} \pm \frac{3\sqrt{3}}{10}i$$

#1 $5x-3=0$
 $5x=3$
 $x = \frac{3}{5}$

#2
 #3

Topic: factoring by grouping.

#13 $x^3 + 2x^2 + 5x + 10 = 0$

$$x^2(x+2) + 5(x+2) = 0$$

$$(x^2 + 5)(x+2) = 0$$

$$x^2 = -5 \quad x = -2 \quad \#1$$

$$x = \pm i\sqrt{5}$$

#1 #2

$$a \cdot c = -30$$
$$m = 15$$
$$n = -2$$

factoring
by

g

$$6x^2 + 13x - 5 = 0$$

$$6x^2 + 15x - 2x - 5 = 0$$

$$3x(2x+5) - 1(2x+5) = 0$$

$$(3x-1)(2x+5) = 0$$

$$x = \frac{1}{3}$$

$$x = -\frac{5}{2}$$