Warm Up

Factor.

1) $44 - 15x + x^2$

$x^2 - 15x + 44$

$(x-11)(x-4)$

44
-11 -4
-15

Solve.

2) $x^2 - 9x = -14$

$+14 \quad +14$

$x^2 - 9x + 14 = 0$

$(x-2)(x-7) = 0$

$x-2=0 \quad x-7=0$

$x=2 \quad x=7$

1, 14
2, 7

14
-2 -7
-9

Homework Questions?

Self Scoring Scale

4- I can *summarize* the concepts and explain it to others.

3- I can *apply* the concepts to answer questions correctly.

2- I can *apply* the concepts but with some *mistakes*.

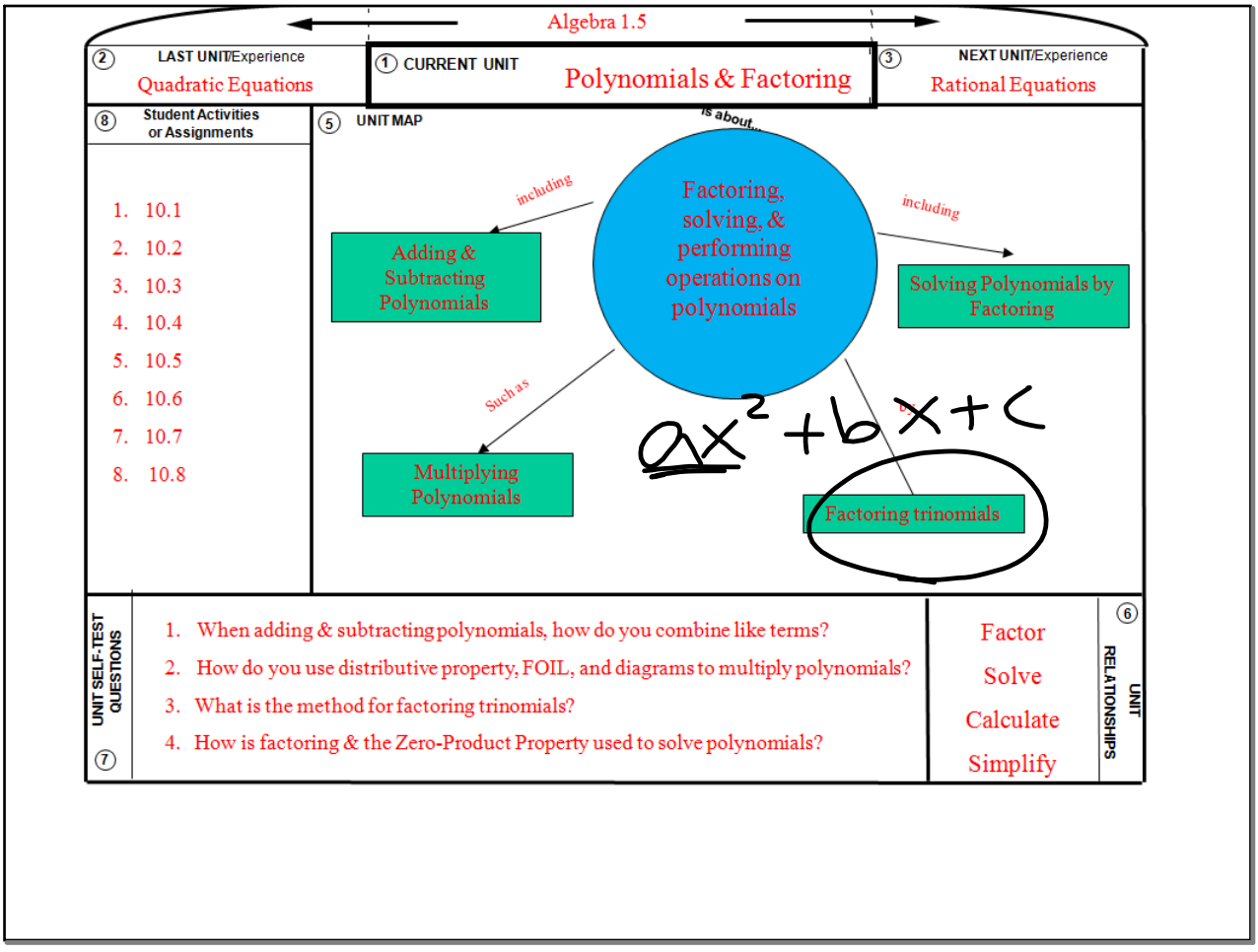
1- I *need help* to know how to apply the concepts.

0- I *can't* apply the concepts even with help.

10.6 Factoring $ax^2 + bx + c$

Goals:
- Factor a quadratic expression of the form $ax^2 + bx + c$.
- Solve quadratic equations by factoring.

EQ: How do you factor $2x^2 + 11x + 5$?



Example 1: One Pair of Factors for a and c

Factor $3x^2 + 22x + 7$.

1, 3 = 1, 7 ← # by itself

with x term

$(1x + 1)(3x + 7)$

3x

7x

$(1x + 7)(3x + 1)$ ✓

21x

1x

Example 2: Several Pairs of Factors for a and c

Factor $8x^2 - 21x + 10$

· 1 · 8 = · 1 · 10

2 · 4 2 · 5

$(1x - 1)(8x - 10)$

-8x

-10x

$(1x - 10)(8x - 1)$

-80x

$(2x - 1)(2x - 10)$

-2x

-20x

$(2x - 10)(2x - 1)$

-20x

-2x

$(1x - 2)(8x - 5)$ ✓

-16x

-5x

✓ $(x - 2)(8x - 5)$

Example 3: A Common Factor for a, b, and c

Factor $9x^2 + 42x - 15$.

1, 9
3, 3
1, 15
3, 5

$(3x+1)(3x-15)$

$3x$

$-45x$

$(3x-1)(3x+15)$ ✓

$-3x$

$45x$

Summary

~~What form should your answers be in after~~ you factor?

$2x^2 + 11x + 5$

1, 2
1, 5

$(1x+1)(2x+5)$

$2x$

$5x$

$(1x+5)(2x+1)$ ✓

$10x$

$1x$

10.6 Homework

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