Today's Plan:

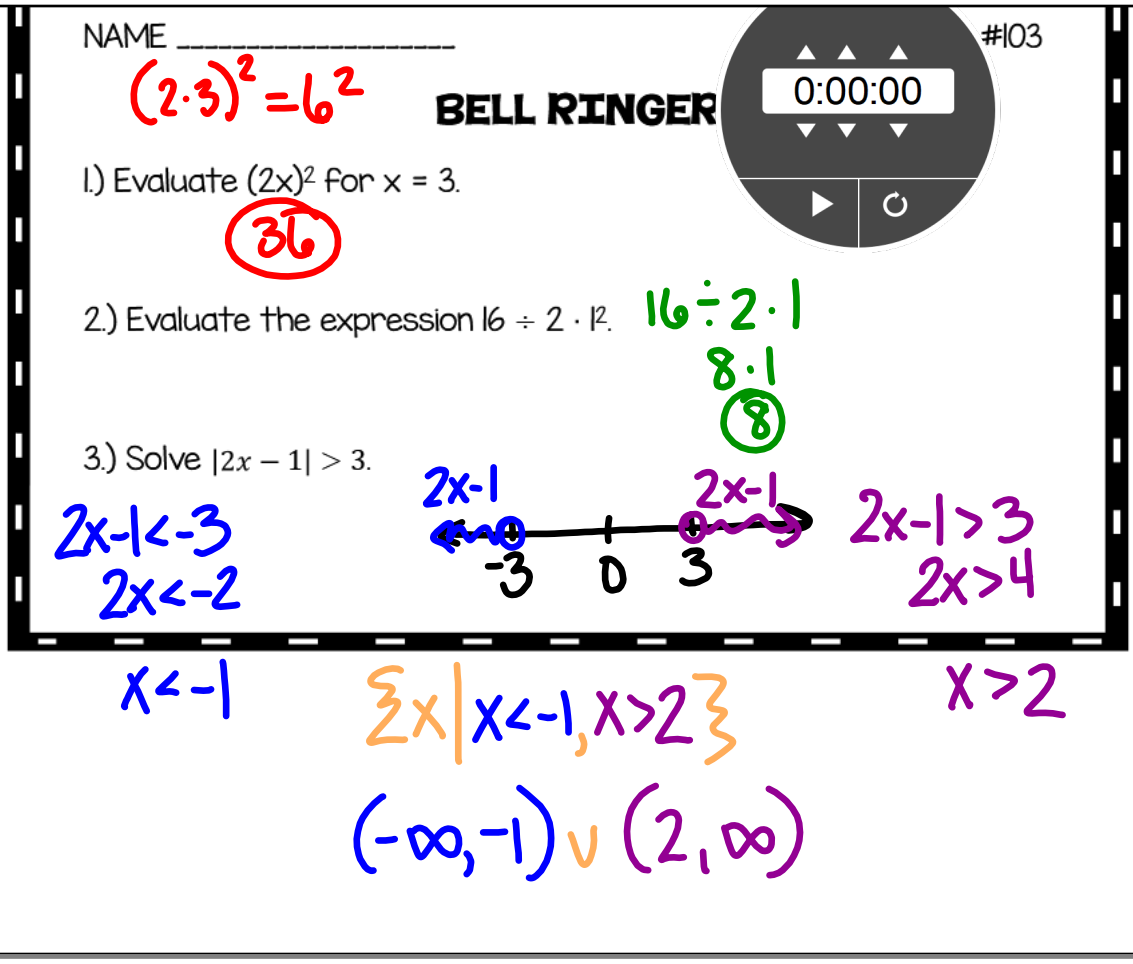
Learning Target (standard): I will factor trinomials by splitting the middle.

Students will: Complete practice problems over previous concepts at the boards, put up homework problems on the board and make necessary corrections to their own work, take notes over new material and complete practice problems over new concepts.

Teacher will: Provide practice problems over previous concepts, check homework problems for accuracy and provide students feedback, describe and provide examples of new concepts and assign students assessment problems over new concepts.

Assessment: Board work, homework check and homework assignment

Differentiation: Students will work at the board, go over and correct homework at their seats, actively engage in lecture over new concepts, practice new concepts with the aid of other students and the teacher and complete homework assignment.



Factor.

3) $5n^2 + 25n - 70$

$5(n^2+5n-14)$

14

$7-2=5$

$n^2+7n-2n-14$

$n(n+7)-2(n+7)$

$5(n+7)(n-2)$

Factor.

6) $75m^2 - 48$

$3(25m^2-16)$

$3(5m+4)(5m-4)$

Factor.

$h^2 - 5h + 6$

6

$-3 + -2 = -5$

$h^2 - 3h - 2h + 6$

$h(h-3) - 2(h-3)$

$(h-3)(h-2)$

Factor.

$h^2 - 7h - 18$

18

$2 - 9 = -7$

$h^2 + 2h - 9h - 18$

$h \quad -9$

$h(h+2) - 9(h+2)$

$(h+2)(h-9)$

Factor.

$b^2 + 11b + 30$

30
5 + 6 = 11

$b^2 + 5b + 6b + 30$

b 6

$b(b+5) + 6(b+5)$

$(b+5)(b+6)$

Factor.

$b^2 + 7b - 30$

30
10 − 3 = 7

$b^2 + 10b - 3b - 30$

b −3

$b(b+10) - 3(b+10)$

$(b+10)(b-3)$

Factor.

$y^2 - 4y - 45$

45
5 -9 = -4

$y^2 + 5y - 9y - 45$

y -9

$y(y+5) - 9(y+5)$

$(y+5)(y-9)$

Factor.

$a^2 - 2a - 3$

3
1 -3 = -2

$a^2 + a - 3a - 3$

a -3

$a(a+1) - 3(a+1)$

$(a+1)(a-3)$

Factor.

$$u^2 + 3u - 4$$

4

4 − 1 = 3

$u^2 + 4u - u - 4$

u -1

$u(u+4) - 1(u+4)$

$(u+4)(u-1)$

Things to think about:

- Any time you are factoring, check
  - positive leading coefficient and descending order
  - common monomial "GCF"
  - number of terms
    - binomial - difference of two squares "special case"
    - trinomials - leading coefficient is 1 (split the middle)
    - trinomials - leading coefficient is not 1 (split the middle)
    - 4 terms - factor by grouping

Factoring Trinomials: $ax^2 \pm bx + c$

- if the trinomial's lead coefficient is not 1, check for a GCF and then

* multiply *a* and *c* together

- find factors of this number that add together to give *b*

"subtract"

- both factors will have the same sign as the middle

$5y^2 - 17y + 6$

30

$-15 + -2 = -17$

$5y^2 - 15y - 2y + 6$

$5y(y-3) - 2(y-3)$

$(y-3)(5y-2)$

Factor.

$2m^2 + 3m - 5$

10

$5 - 2 = 3$

$2m^2 + 5m - 2m - 5$

$m \quad -1$

$m(2m+5) - 1(2m+5)$

$(2m+5)(m-1)$

Factor.

$6u^2 + 13u + 2$

12

$12 + 1 = 13$

$6u^2 + 12u + u + 2$

$6u$ $\downarrow$ 1

$6u(u+2) + 1(u+2)$

$(u+2)(6u+1)$

Factor

$3k^2 - 8k - 35$

105

$7 - 15 = -8$

$3k^2 + 7k - 15k - 35$

k $\downarrow$ -5

$k(3k+7) - 5(3k+7)$

$(3k+7)(k-5)$

Assignment:

Split the Middle 1

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