UNIT 8 REVIEW

AGENDA

Warm-Up

HW Check

Review Stations

REMINDERS

Test tomorrow

Notebook Check tmr

Last call for: HW 5.2 and 5.3 FRIDAY

WARM-UP (THURSDAY)

1. Factor $3x^2 - 4x - 15$ *calculator trick!!*

A. $(3x - 5)(x - 3)$

B. $(3x + 5)(x + 3)$

C. $(3x + 3)(x - 5)$

D. $(3x + 5)(x - 3)$

y_1 = question

y_2 = test answer choices

2. Factor (Factor out GCF First)

$2x^2 + 10x + 12 = 2(x+3)(x+2)$

$x^2 + 5x + 6$

HOMEWORK CHECK

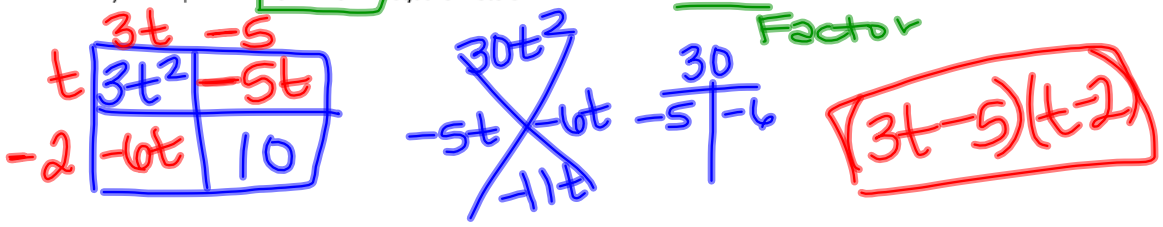
1. $(3t - 5)(t - 2)$
2. $(x - 9)$
3. $(x + 20)$
4. $x^2 + 30x + 200$
5. $(x - 8)$ or 2 feet longer
6. $(3x + 5)$
7. $(3x + 40)(x + 150)$
8. $(3x - 1)$

Algebra I – Unit 8: Topic 1 – Applications of Factoring

Practice – Applications of Factoring **pp 524-571**

Name _____ Date _____ Period _____

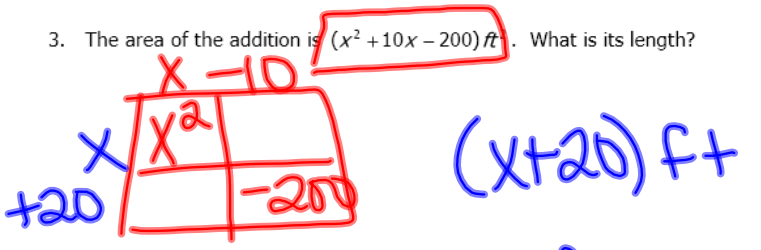
1. The Parthenon in Athens, Greece, is an ancient structure that has a rectangular base. The area of the base is modeled by the expression $3t^2 - 11t + 10$ *square meters*. What are the dimensions of the base?

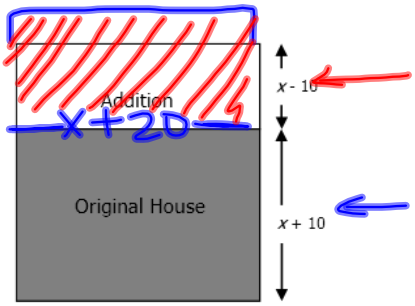


2. The area of a rectangular room is given as $x^2 - 16x + 63$ square feet. If the width of room is $(x - 7)$, what is the length?

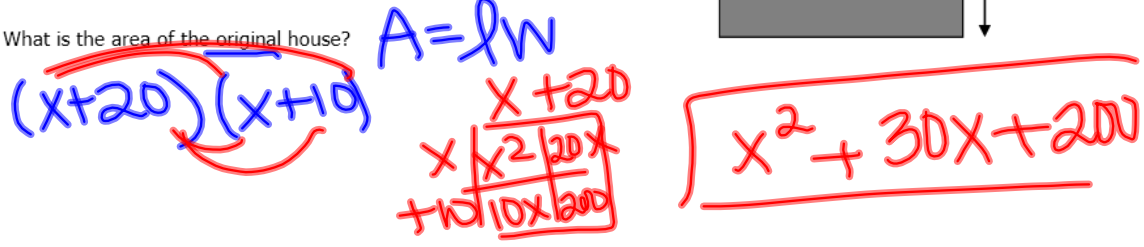
The figure shows the plans for an addition on the back of a house. Use the figure to answer questions 3-5.

3. The area of the addition is $(x^2 + 10x - 200)\,ft^2$. What is its length?





4. What is the area of the original house?



5. The homeowners decide to extend the addition. The area with the addition is now $(x^2 + 12x - 160)\,ft^2$. By how many feet was the addition extended?

Algebra I – Unit 8: Topic 1 – Applications of Factoring

6. The area of a soccer field is $(6x^2 + 25x + 25)$ *square meters*. The width of the field is $(2x + 5)$ *meters*. What is the length of the field?

7. For a certain college, the number of applications received after x recruiting seminars is modeled by the polynomial $3x^2 + 490x + 6000$. What is this expression in its factored form?

8. Instructors led an exercise class from a raised rectangular platform at the front of the room. The width of the platform was $(x + 1)$ feet and the area was $(3x^2 + 2x - 1)\,ft^2$. Find the length of this platform.

UNIT 8 REVIEW

On your review:

Rank the following topics in order from the Most Difficult for you to the Least Difficult for you.

Please make sure to rank based on your feelings on the topic and not your neighbors' feelings.

1. Factoring Using the GCF (Greatest Common Factor)

2. Factoring Trinomials Using the X-Box or Four term grouping Methods

3. Solving Word Problems Using Factoring

4. Simplifying Expressions Using Exponent Rules

UNIT 8 REVIEW

You will now visit the stations in your order. Start with the most difficult and work the problems listed on your review.

ORANGE 1. Factoring Using the GCF (Greatest Common Factor)

YELLOW 2. Factoring Trinomials Using the X-Box or Four term grouping Methods

BLUE 3. Solving Word Problems Using Factoring

PURPLE 4. Simplifying Expressions Using Exponent Rules

Remember: your completed review is worth bonus points on your test!!

http://www.mskmathrhs.weebly.com

Algebra I
Unit 8 Review

Name _____

Prime or Composite?

1. 9
2. -3
3. 11
4. -24

Factor each polynomial using the GCF.

5. $15nr^2 - 18m^2nr - 12mn^2r + 3nr$

6. $32a^3b^2c^3 + 40a^2bc^3 - 16a^4b^2c^2$

A. $8a^2bc^2$
B. $8a^2bc^2(4abc+5c-2a^2b)$
C. $4a^2bc^2(8abc+10c-4ab)$
D. $8abc(4a^2bc^2+5ac^2-2a^3bc)$

7. $15x^2y - 5xy^3 + 110xy^2$

8. $8y^7 + 5y^4 + y^2$

A. Prime
B. y^2
C. $y^2(8y^5+5y^2+1)$
D. $y^2(8y^5+5y^2)$

Factor each trinomial. (Be sure to check for a GCF first!) Check your answers on the calculator.

9. $4x^2-12x+9$

A. $x(4x-3)-9(x-1)$
B. $(2x-3)(2x+3)$
C. $(2x-3)^2$
D. Prime

10. $5x^2+12x+7$

A. $x(5x+5)+7(x+1)$
B. $(5x+7)(x+1)$
C. Prime
D. $(x+7)(5x+1)$

Factor each trinomial. (Be sure to check for a GCF first!) Check your answers on the calculator.

11. $3x^2 - 3x - 18$

12. $4x^2 - 25$

13. $x^2 - 49$

14. $x^3 - 3x^2 - 10x$

A. x(x+2)(x+5)
B. (x+2)(x-5)
C. x(x+2)(x-5)
D. x(x-2)(x-5)

15. The area of a rectangle is $3x^2 + 14x + 8$, and the width is $x + 4$. Which expression best describes the rectangle's length?

A. $2x + 2$ B. $2x + 4$ C. $3x + 2$ D. $3x - 2$

16. The area of a rectangle is $x^2 + 2x - 3$. Which of the following could be length and width?

A. width $(x+1)$ and length $(x-3)$
B. width $(x+3)$ and length $(x-1)$
C. width $(x-1)$ and length $(x-3)$
D. width $(x+3)$ and length $(x+1)$

$A = x^2 + 2x - 3$

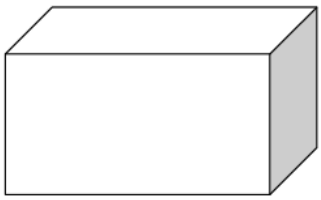
17. If the area of a square is $x^2 + 10x + 25$, what is the length of each side?

A. (x-5) B. (x+5) C. (x+10) D. (x-10)

18. The volume of a box is $4x^2+34x+60$, what is the length, width, and height?

A. Length: $4x^2$
Width: 34x
Height: 60

B. Length: (2x+5)
Width: (x+6)
Height: 2



C. Length:2x
Width: (2x+5)
Height: (2x+6)

D. Length: (x+5)
Width: (2x+6)
Height: 2

19. Which binomial is a factor of $3x^2+5x+2$?

A. $3x-2$

B. $x-1$

C. $x+1$

D. $x+2$

Simplify each expression:

20. $\left(4x^3yz^2\right)\left(-5x^4y^{-6}\right)$

21. $\dfrac{-(2x^2y)^3(2xy^4)}{4x^3y^2z^0}$

22. $2\left(4x^2+3x\right)-\left(x+3\right)\left(x-2\right)$

23. $(2x+3)^2$