

1. Which equation is equivalent to

2 questions with these directions

2-5

Solving Equations with the Variable on Each Side

practice problems:
11-14, 19-24

1 Solve $-2 + 10p = 8p - 1$. Check

$$-2 + 10p = 8p - 1$$

$$-2 + 10p - 8p = 8p - 1 - 8p$$

$$-2 + 2p = -1$$

$$-2 + 2p + 2 = -1 + 2$$

$$2p = 1$$

$$\frac{2p}{2} = \frac{1}{2}$$

$$p = \frac{1}{2} \text{ or } 0.5$$

2. Which inequality is equivalent to

2 questions with these directions

6-3

Solving Multi-Step Inequalities

practice problems:
10-19, 26-31

Solve $-7b + 19 < -16$.

$$-7b + 19 < -16$$

$$-7b + 19 - 19 < -16 - 19$$

$$-7b < -35$$

$$\frac{-7b}{-7} > \frac{-35}{-7}$$

$$b > 5$$

Change $>$ to $<$
or $<$ to $>$

When you
divide or multiply
by a negative

What is the x-intercept of the graph of

$$3x + 2y = 9$$

2 questions with these directions

To find the x-intercept, let $y = 0$. will practice in class right now.

$$3x + 2y = 9 \quad \text{Original equation}$$

$$3x + 2(0) = 9 \quad \text{Replace } y \text{ with } 0.$$

$$3x = 9 \quad \text{Divide each side by } 3.$$

$$x = 3$$

x-intercept
 $y = 0$

5. Which equation is shown on the graph below?

4-4

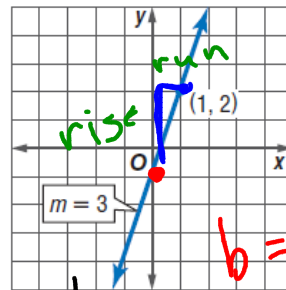
Writing Equations in Slope-Intercept Form

practice problems:

10, 11

practice in class now

$$\frac{\text{rise}}{\text{run}} = \frac{3}{1} = 3$$



$$y = mx + b$$

$m = \text{slope}$ $b = \text{y-intercept}$

$$y = 3x - 1$$

add rational expressions
with like denominators

11.6

Practice Problems

x10-15

13. $\frac{3r}{r+5} + \frac{15}{r+5}$

$$\frac{3r+15}{r+5} = \frac{\cancel{3(r+5)}}{\cancel{r+5}} = 3$$

multiply rational expressions
and simplify

11.3

Practice Problems

(have to factor polynomials) - x17-22

2 problems

~~11/12~~

21. $\frac{b^2 + 12b + 11}{b^2 - 9} \cdot \frac{b + 9}{b^2 + 20b + 99}$

$$\frac{(b+1)\cancel{(b+11)}}{(b+3)(b-3)} \cdot \frac{\cancel{b+9}}{\cancel{(b+9)}\cancel{(b+11)}} = \frac{b+1}{(b+3)(b-3)}$$

~~99/20~~

divide rational
expressions and simplify
(have to factor
polynomials)

11.4
Practice Problems
x16-20

$$19. \frac{b+2}{b^2+4b+4} \div \frac{2b+4}{b+4}$$

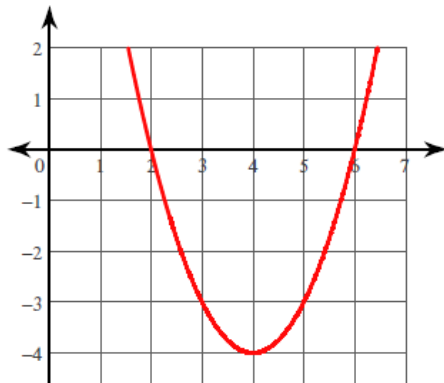
$\frac{4}{2} \cdot \frac{2}{4}$

$$\frac{\cancel{b+2}}{\cancel{(b+2)}(b+2)} \cdot \frac{b+4}{2(b+2)} = \frac{b+4}{2(b+2)^2}$$

Look at the graph of the equation
below.

For what values of x does $y = 0$?

4) $f(x) = x^2 - 8x + 12$



will practice in class
right now.

What are the *x-intercepts* of the graph of

$$y = x^2 + 5x + 4$$

x-intercepts
where $y = 0$

$$\text{solve: } x^2 + 5x + 4 = 0$$

factoring,
completing the square
quadratic formula

Complete the following sentence.

The graph of $y = \dots$ intersects the x -axis
 times.

2 questions
like this

24. $y^2 + 3y + 1 = 0$

9-4

Solving Quadratic Equations by Using the Quadratic Formula

practice
problems #23
- 28

Discriminant - the part of quadratic formula
under the radical (square root) sign.

$$b^2 - 4ac$$

$b^2 - 4ac$ positive 2 roots

$b^2 - 4ac = 0$ 1 double root

$b^2 - 4ac$ negative no roots

Projectile word problem from 9.4 Quadratic formula

As Darius is skiing down a ski slope, Jorge is on the chairlift on the same slope. The chair lift has stopped. Darius stops directly below Jorge and attempts to toss a disposable camera up to him. If the camera is thrown with an initial velocity of 35 feet per second, the equation for the height of the camera is $h = -16t^2 + 35t + 5$, where h represents the height in feet and t represents the time in seconds.



- ~~37. If the chairlift is 25 feet above the ground, will Jorge have 0, 1, or 2 chances to catch the camera?~~
38. If Jorge is unable to catch the camera, when will it hit the ground?

Geometry word problem from 9.4 Quadratic formula



2. **GEOMETRY** The perimeter of a rectangle is 60 inches. Find the dimensions of the rectangle if its area is 221 square inches.
21. **GEOMETRY** What are the dimensions of rectangle $ABCD$?

Rectangle $ABCD$	
perimeter	42 cm
area	80 cm ²

Simplifying Radical Expressions

$$\sqrt{9} \cdot \sqrt{16}$$

$$2\sqrt{100} \cdot 3\sqrt{1}$$

$$\sqrt{4} \cdot \sqrt{25}$$

$$\sqrt[3]{27} = 3$$

$$\sqrt[3]{8} = 2$$

$$\sqrt[3]{125} = 5$$

Cube
roots

If $\frac{b^2 - 4ac}{4a} = \frac{b}{2a}$ is a true statement, what is the value of a ?

How to factor $ax^2 + bx + c$

Factor out common factors for a, b, c :
(might change to simple $x^2 + bx + c$!)

Find two numbers (m and n) that

- multiply together to make ac
- add together to make b

Use the two numbers you found to split the middle term into two terms then factor by grouping.

$$\begin{array}{ccc} & ac & \\ m & \times & n \\ & b & \end{array}$$

$ax^2 + bx + c$
 $ax^2 + mx + nx + c$

Simplify rational expression of monomials

Chapter 11.2(and.3)

$$4. \frac{56x^2y}{70x^3y^2}$$

Quadratic Formula

Quadratic Formula

if $ax^2 + bx + c = 0$

then $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

you can tell a problem has to be solved using the quadratic formula (or completing the square) if the answer choices have square roots in them

8-5**Factoring Differences
of Squares**practice problems
x11-25

a. $n^2 - 25$

$$\begin{aligned}n^2 - 25 &= n^2 - 5^2 \\ &= (n + 5)(n - 5)\end{aligned}$$

b. $36x^2 - 49y^2$

$$\begin{aligned}36x^2 - 49y^2 &= (6x)^2 - (7y)^2 \\ &= (6x + 7y)(6x - 7y)\end{aligned}$$

7-4**Adding and Subtracting
Polynomials**practice
problems
x17-22Find $(3n^2 + 13n^3 + 5n) - (7n + 4n^3)$.

