

Exam # 2 Chapters 3 & 4

4.6 Graphing systems of inequalities

=> Shade overlap

4.5 Word problems with linear systems

1) Tickets

2) coins

3) Interest

4) Dry goods

5) Chemistry

4.4 Word Problems w/ linear systems

1) Direct translation

2) uniform motion ($D=rt$)

3) Geometry

$\left\{ \begin{array}{l} \rightarrow \text{opposite directions} \\ \rightarrow \text{add distances} \\ \text{same direction} \\ \rightarrow \text{subtract distances} \\ \text{same distance} \\ \rightarrow \text{set distances equal.} \end{array} \right.$

4.3 Solving by Elimination

4.2 Solving by Substitution

4.1 Solving by Graphing

↳ 3 methods for solving
Systems of equations

Classify systems!

1) Consistent independent

↳ one solution

↳ lines intersect

↳ Slopes are different numbers
(any kind of different!)

2) Inconsistent

↳ No solution

↳ Parallel lines don't intersect

↳ Slopes are the same
↳ y-ints. are different

3) Consistent dependent

↳ Infinitely many solutions

↳ same line

all points on both lines

↳ Slopes the same

↳ y-ints are the same



3.7 Linear inequalities

one inequality at a time

(vs. 4.6 two or more at a time)

- determine if it's a solution

- graphing - solid vs. dotted

- shading

shade up • • test point

• $y >$

• $y \geq$

shade down • • test point

• $y <$

• $y \leq$

dotted $<$ or $>$

solid $\leq$ or $\geq$

Vertical	Horizontal
$x = \text{x coeff. of pt.}$	$y = \text{y coeff. of pt.}$
$m = \text{undefined}$	$m = 0$
'no slopes'	

3.6 Parallel + Perpendicular Lines

Parallel = same slope
different y-ints.

perpendicular: slope
| reciprocal |
And 2 opposite

3.5 Point-slope formula for equation of line

$$y - y_1 = m(x - x_1)$$

3.4 Slope intercept form of equation of a line

$$y = mx + b$$

isolate y
 $m = \text{slope}$
 $b = \text{y-int}$

3.3 Slope

Slope Formula

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{\text{rise}}{\text{run}}$$

3.2 Graphing Equations

Make a chart of points

x-intercept: set $y=0$, solve for x

y-intercept: set $x=0$, solve for y

3.1 Rectangular coordinate system

Solutions of Equations

II	I
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III	IV
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