

CP Algebra 2
Unit 2 Review
Key

Linear Patterns – Equations

- 1.) No
- 2.) No
- 3.) Yes
- 4.) No
- 5.) No
- 6.) Yes

Linear Patterns – Tables

- 4.) Yes
- 5.) No
- 6.) Yes

Writing Equations of Lines

- 1.) $y = -\frac{135}{58}x + \frac{25}{58}$
- 2.) $y = -\frac{5}{3}x - \frac{8}{3}$
- 3.) $y = -\frac{1}{8}x + \frac{305}{144}$
- 4.) $y = -\frac{5}{6}x + \frac{179}{70}$
- 5.) $y = \frac{8}{5}x + \frac{12}{5}$ (same line)
- 6.) $y = -\frac{7}{4}x + \frac{21}{4}$
 (@ x-intercept = (3,0))

Graphing Lines
 (Use METHOD described)

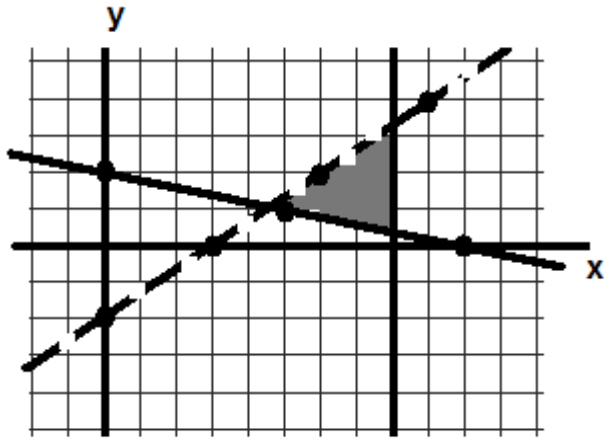
Systems of Equations
 (Use METHOD described; you can check your answers)

Lines Involving Triangles

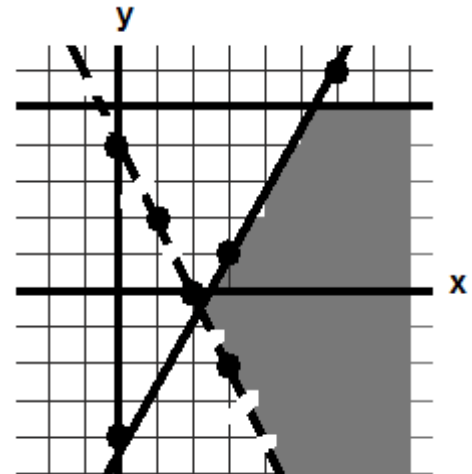
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|------------------------------------------|-------------------------------------|-------------------------------------|------------------------------------------------|
| 1.) $y = \frac{7}{5}x - \frac{34}{5}$ | $y = \frac{3}{10}x + \frac{1}{20}$ | $y = -\frac{4}{5}x + \frac{69}{10}$ | $\left(\frac{137}{22}, \frac{211}{110}\right)$ |
| 2.) $y = \frac{7}{5}x$ | $y = \frac{3}{10}x + \frac{17}{10}$ | $y = -\frac{4}{5}x + \frac{17}{5}$ | $\left(\frac{17}{11}, \frac{119}{55}\right)$ |
| 3.) $y = 15x - 68$ | $y = 2$ | $y = -\frac{3}{2}x + 9$ | $\left(\frac{14}{3}, 2\right)$ |
| 4.) $y = -\frac{6}{7}x + 6$ | $y = -3x + 6$ | $y = 2x + 6$ | (0, 6) |
| 5.) $y = -\frac{6}{7}x - \frac{31}{14}$ | $y = -3x + 1$ | $y = 2x - \frac{13}{2}$ | $\left(\frac{3}{2}, -\frac{7}{2}\right)$ |
| 6.) $y = \frac{11}{18}x - \frac{17}{18}$ | $x = 1$ | $y = \frac{1}{18}x - \frac{7}{18}$ | $\left(1, -\frac{1}{3}\right)$ |

Systems of Inequalities

1.)



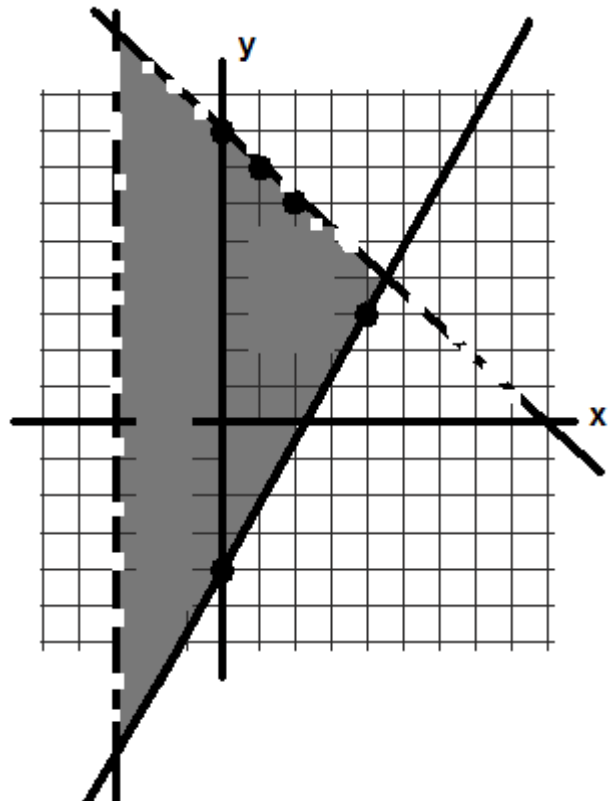
2.)



3.)

$$\begin{cases} y > \frac{2}{5}x + \frac{8}{5} \\ y \leq 5x - 3 \\ y \leq -\frac{3}{4}x + \frac{17}{2} \end{cases}$$

4.)



5.)

$$\begin{cases} y \geq -\frac{5}{2}x - \frac{9}{2} \\ y \leq \frac{1}{4}x + \frac{15}{4} \\ x \leq 1 \\ y \geq -2 \end{cases}$$

6.)

$$\begin{cases} y \leq \frac{1}{4}x + \frac{21}{4} \\ y \leq -\frac{2}{5}x + \frac{16}{5} \\ x < 2 \end{cases}$$

Linear Regression

5.) $y = 1.223x + 3.145$;
 $r = 0.91\dots$ good line since it's bigger than 0.8
 $y = 27.61$
 $x = 79.19$

6.) $y = 5.036x - 9918.327$;
 $r = 0.956\dots$ good line since it's bigger than 0.8
 $y = 255.127$
 $x = 2019.13$