Graphing Linear Equations

The student will select, justify, and apply an appropriate technique to graph linear functions and linear inequalities in two variables. Techniques will include slope-intercept, x- and y-intercepts, graphing by transformation, and the use of the graphing calculator.

SOL A.6

Materials: cards

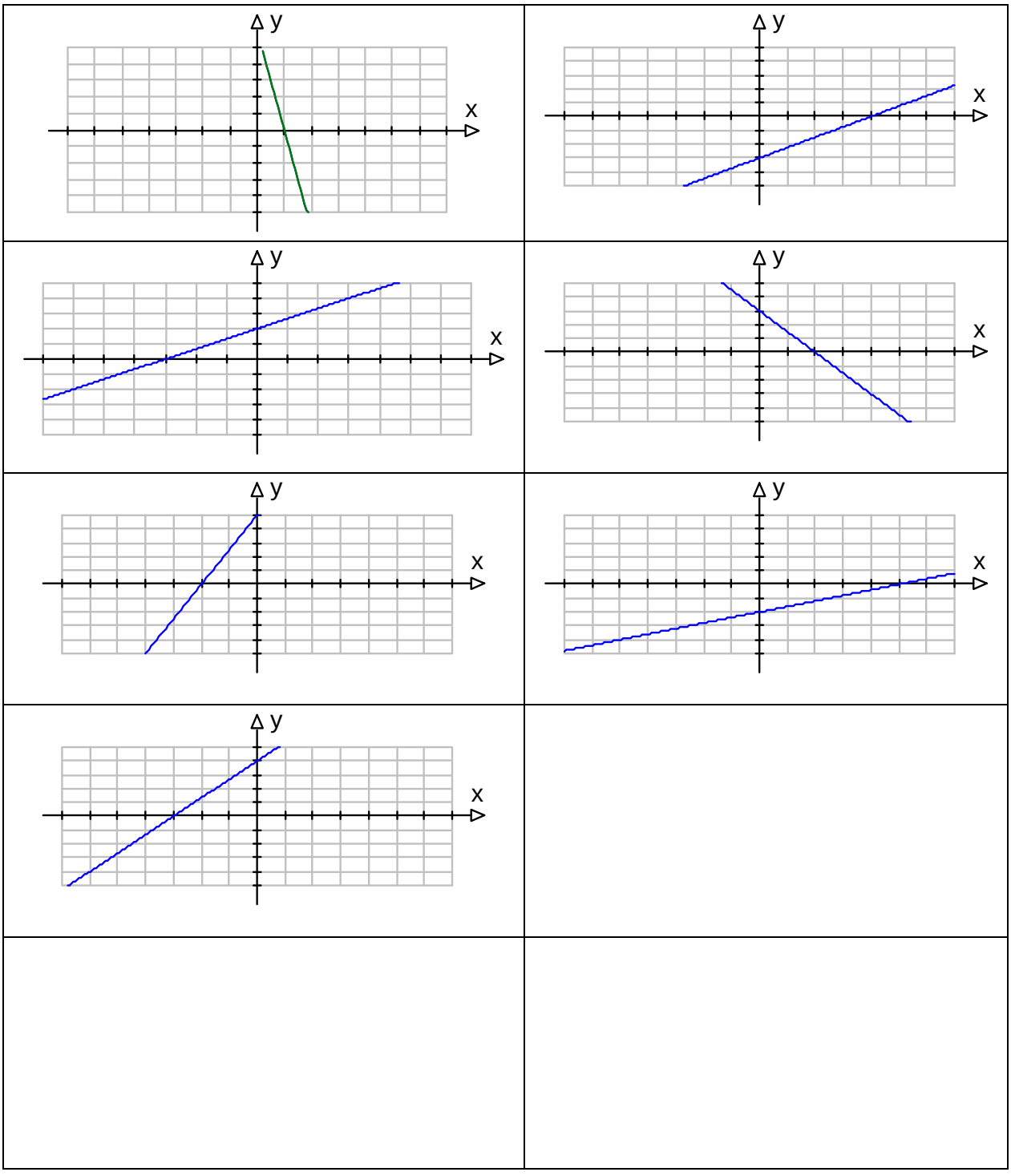
Groups: 3 or 4 students

Game:

The cards should be shuffled and placed face up on a flat surface. The objective is to match the
x-intercept, y-intercept, equation, and graph of each function. Students should determine the order of play. On an individual's turn, a student should pick the card with the equation of a line and match it to cards showing the x-intercept, y-intercept, or graph. The next student will pick a card that also applies to that same function. Continue play until all cards are matched to their equation.

Deck 1 $6x + y = 6$	**Deck 1** $3x - 4y = 12$
Deck 1 $-2x + 3y = 6$	**Deck 1** $3x + 2y = 6$
Deck 1 $5y - 2x = -10$	**Deck 1** $4x - 3y = 12$
Deck 1 $2y - 5x = 10$	**Deck 1** **y-intercept is –2.**
Deck 1 **y-intercept is 2.**	**Deck 1** **y-intercept is –3.**
Deck 1 **y-intercept is 6.**	**Deck 1** **y-intercept is 5.**

Deck 1 **y-intercept is 3.**	**Deck 1** **y-intercept is –4.**
Deck 1 **x-intercept is 2.**	**Deck 1** **x-intercept is 4.**
Deck 1 **x-intercept is 1.**	**Deck 1** **x-intercept is 5.**
Deck 1 **x-intercept is –3.**	**Deck 1** **x-intercept is –2.**
Deck 1 **x-intercept is 3.**	


y
x
y
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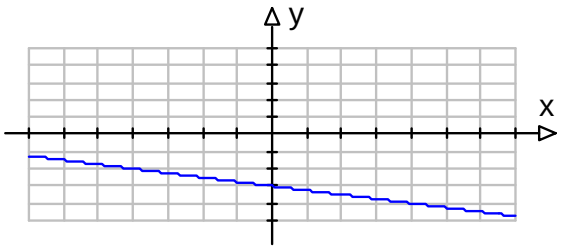
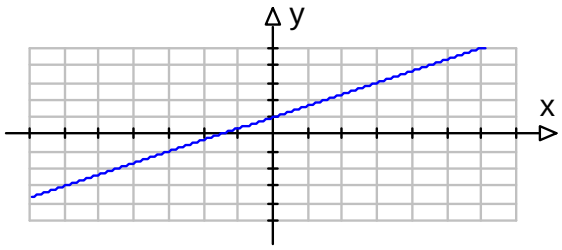
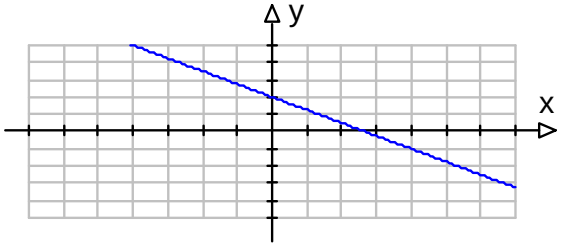
x

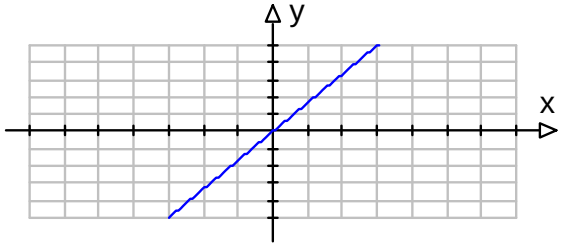
Deck 2 **y-intercept is 1.**	**Deck 2** **y-intercept is –4.**
Deck 2 **y-intercept is 2.**	**Deck 2** **y-intercept is 3.**
Deck 2 **y-intercept is 0.**	**Deck 2** **y-intercept is –2.**
Deck 2 **y-intercept is –3.**	**Deck 2** **slope is 4.**
Deck 2 **slope is $\frac{2}{3}$.**	**Deck 2** **slope is $\frac{5}{3}$.**
Deck 2 **slope is $-\frac{1}{4}$.**	**Deck 2** **slope is $-\frac{3}{4}$.**

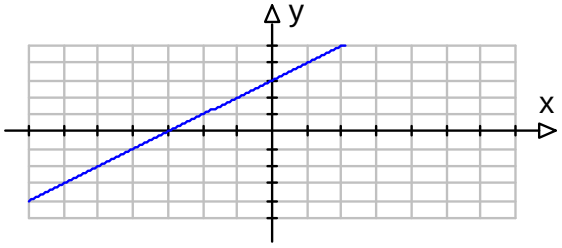
Deck 2 **slope is 1.**	**Deck 2** **slope is 2.**
Deck 2 $y = -\frac{1}{4}x - 3$	**Deck 2** $y = \frac{2}{3}x + 1$
Deck 2 $y = 2 - \frac{3}{4}x$	**Deck 2** $y = x + 3$
Deck 2 $y = 4x - 2$	**Deck 2** $y = 2x - 4$
Deck 2 $y = \frac{5}{3}x$	

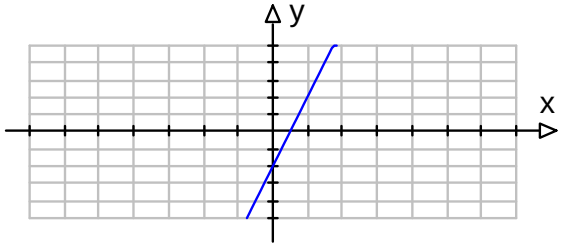

y
x


y
x


y
x


y
x


y
x


y
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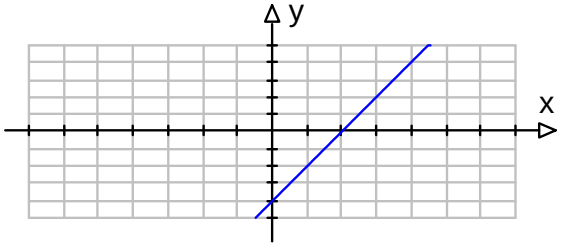
y
x