Graphing Task Cards

Print double-sided, flipping on the long edge. Cut along the frames.

1

Graph both lines on one grid.

A $y = 2x - 3$

B $y = -x + 3$

Where do the lines cross?

2

Graph both lines on one grid.

A $y = x + 1$

B $2x - y = 2$

Where do the lines cross?

3

Solve the system by graphing.

A $x + y = 4$

B $x - y = -2$

Check your point in both equations.

4

Solve the system by graphing.

A $y = \frac{1}{2}x + 2$

B $3x + 2y = 12$

5

Solve the system by graphing.

A $y = 2x + 2$

B $4x - 2y = 8$

6

Solve the system by graphing.

A $y = 2x + 2$

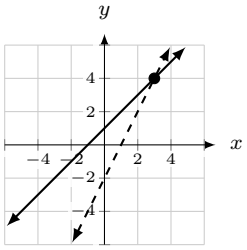
B $4x - 2y = -4$

Graphing Task Cards — Backs

Answers for the cards on the other side of this sheet.

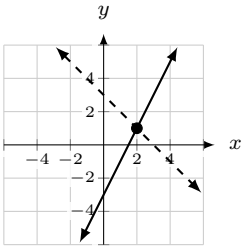
2 — answer

$(3,\ 4)$



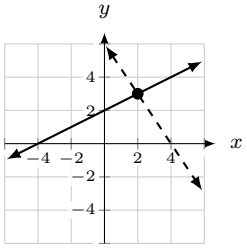
1 — answer

$(2,\ 1)$



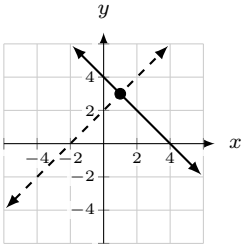
4 — answer

$(2,\ 3)$



3 — answer

$(1,\ 3)$

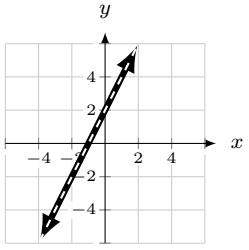


6 — answer

Infinitely many solutions

coincident lines:

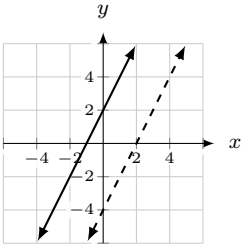
the same line, twice



5 — answer

No solution

the lines are parallel



Graphing Task Cards

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7

Line A is $y = 2x + 2$.

Write an equation for a line B that meets A at

a) exactly one point
b) no points
c) every point

Could two lines meet at exactly two points?

8

Without graphing, say whether each system has one solution, no solution, or infinitely many.

I $y = 3x - 2$, $y = 3x + 1$

II $y = 3x - 2$, $y = 2x - 2$

III $y = \frac{1}{2}x - 4$, $y = \frac{1}{2}x - 4$

How can you tell?

9

Without graphing, say whether each system has one solution, no solution, or infinitely many.

I $x + 2y = 6$, $3x - y = 4$

II $2x + 4y = 8$, $x + 2y = 4$

III $3x - y = 2$, $6x - 2y = 1$

Bonus A

A $y = 3x + 2$

B $6x - 2y = k$

Which values of k give the system

a) no solution? **b)** infinitely many?

Bonus B

A group said the system

A $2x + 3y = 6$

B $4x + 6y = 12$

has no solution, because 6 and 12 are different y-intercepts.

What went wrong?

Bonus C

Do these three lines all pass through one point?

$y = x + 1$

$y = -x + 3$

$y = 3x - 1$

Find the point, and check without graphing.

Graphing Task Cards — Backs

Answers for the cards on the other side of this sheet.

8 — answer

I: no solution

II: one solution

III: infinitely many

7 — answer

a) any other slope, e.g. $y = -x + 4$

b) slope 2, other y-int, e.g. $y = 2x - 5$

c) coincident, e.g. $2y = 4x + 4$

Two points: never

Bonus A — answer

a) any k except -4

b) $k = -4$

9 — answer

I: one solution

II: infinitely many

III: no solution

Bonus C — answer

Yes: $(1,\ 2)$

$1 + 1 = 2,\ -1 + 3 = 2,\ 3 - 1 = 2$

Bonus B — answer

Infinitely many solutions.

6 and 12 are not the y-intercepts;

both lines are $y = -\frac{2}{3}x + 2$.