

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.

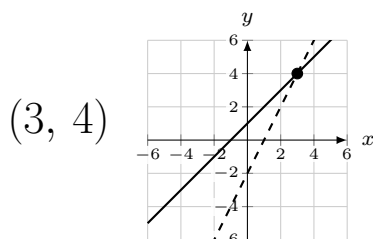
A $y = 2x + 2$

B $4x - 2y = -4$

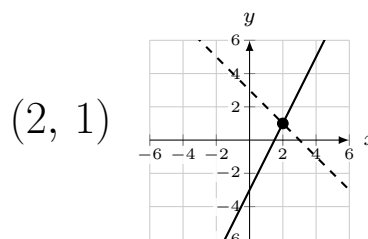
Graphing Task Cards — Backs

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

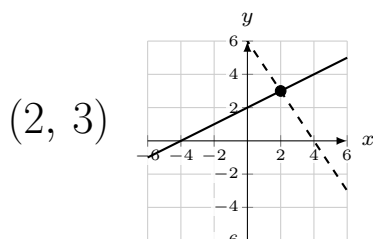
2 — answer



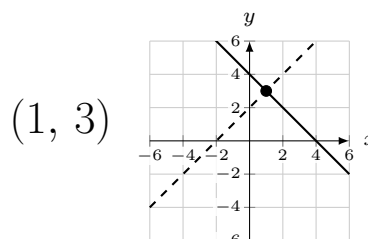
1 — answer



4 — answer



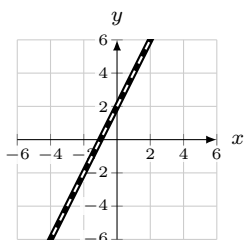
3 — answer



6 — answer

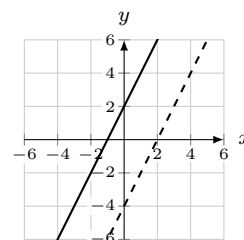
Infinitely many
solutions

coincident lines:
the same line, twice



5 — answer

No solution
the lines are parallel



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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 $y = 3x - 2$ II $y = 3x - 2$
 $y = 3x + 1$ $y = 2x - 2$

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 $x + 2y = 6$ II $2x + 4y = 8$
 $3x - y = 4$ $x + 2y = 4$

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