# Algebra 1 Practice Set — Linear equations & graphs

Student pages · ~25–35 minutes

Name: _____ Date: _____ Grade: 9 / 10

Directions: Show your work. Circle final answers. Use the coordinate grid on page 2 for graphing.
This free set is a sample of the style used in High School Packets weekly printable + fillable PDFs.

**1. Solve for x:**

$3x - 7 = 14$

**2. Solve for x:**

$2(x + 5) = 18$

**3. Solve for y:**

$5y + 4 = 3y - 8$

**4. Write the slope-intercept form of the line through (0, 2) with slope -3.**

y = ____

**5. Find the slope of the line through (1, 4) and (3, 10).**

m = ____

**6. Solve the system:**

$y = 2x + 1$ and $y = -x + 7$

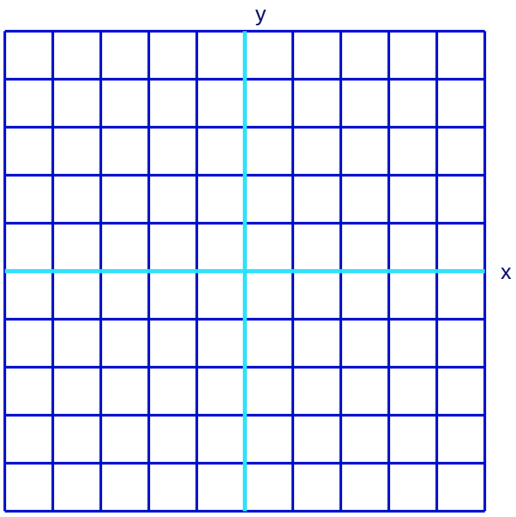
**7. Factor completely:**

$x^2 + 5x + 6$

**8. Simplify:**

$(3x^2y)(2xy^3)$

**9. Graph y = (1/2)x - 1 on the grid. Plot at least three points and draw the line.**




**10. Word problem (Side Quest style)**

Jordan earns $12 per hour tutoring and already has $40 saved. Write an equation for total savings S after h hours. Then find how many hours Jordan needs to reach $160.



Equation: _____

# Answer Key — Algebra 1 Practice Set



1. $3x - 7 = 14 \rightarrow 3x = 21 \rightarrow x = 7$

2. $2(x + 5) = 18 \rightarrow x + 5 = 9 \rightarrow x = 4$

3. $5y + 4 = 3y - 8 \rightarrow 2y = -12 \rightarrow y = -6$

4. $y = -3x + 2$

5. $m = (10 - 4)/(3 - 1) = 6/2 = 3$

6. $2x + 1 = -x + 7 \rightarrow 3x = 6 \rightarrow x = 2$, $y = 5$. Solution: (2, 5)

7. $(x + 2)(x + 3)$

8. $6x^3y$■

9. Line through e.g. (0, -1), (2, 0), (4, 1); slope 1/2, y-intercept -1

10. $S = 12h + 40$; $12h + 40 = 160 \rightarrow 12h = 120 \rightarrow h = 10$ hours

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