

Math 94 Review for Test 1: Sections 2.1 - 2.7, 3.1 – 3.3

Use the distributive property to remove parentheses:

1a) $-2(x + 3y)$

(b) $-(x - 5)$

2. $\frac{1}{3}(-6x + 3)$

Simplify:

3a) $2(x + 3y) - y$

(b) $5(x - 3) - (x - 5)$

Solve the equations:

4a) $6 = y + 9$

(b) $60 + t = -60$

5a) $x - \frac{1}{2} = \frac{3}{4}$

(b) $x + \frac{2}{3} = -\frac{1}{6}$

6a) $-5y = 20$

(b) $0.5z = 8$

7a) $\frac{2}{3}x = -20$

(b) $\frac{x}{0.4} = 20$

8a) $5x + 7 = 22$

(b) $-4w + 11 = 19$

9a) $8 - 2w = 4w - 4$

(b) $\frac{1}{4}(x - 10) = 5$

10a) $5z - 30 = 18z + 100$

(b) $\frac{1}{5}x + \frac{1}{3}x = 2$

Solve each of the following for the indicated variable.

11. $4rp = 100$ Solve for r .

12. $s = \frac{1}{2}gt^2$ Solve for g .

13a) $2y - 5x = 3$ Solve for y .

13b) $3t + 4tw = 5$ Solve for w .

14. Solve the proportions:

(a) $\frac{x}{6} = \frac{2}{7}$

(b) $\frac{9}{x} = \frac{5}{3}$

15. In a scale drawing, a flagpole 40 feet tall is drawn 2 inches high. The building next to it is drawn 3.5 inches high. How tall is the building?

In problems 16 & 17, two quantities are implied. (a) select a letter to represent one quantity and state what that variable represents; (b) express the second quantity in terms of the variable selected.

16. Andy has saved \$4000 more than Carl.

17. Lisa is one year less than five times as old as her son.

Your solutions to problems 18 - 20 must include an equation and identification of the variable. Write your answer in a complete sentence.

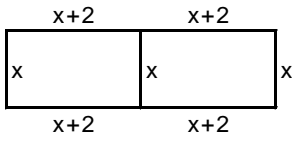
18. Last week, Pat earned \$60 less than Tony. If their combined earnings for the week were \$500, how much did each earn?

19. Jerry is 3 years less than twice as old as Larry. The sum of their ages is 60. Find their ages.

20. A class in a large lecture hall at American University currently has 280 students. If 4 students drop out of the course each week, how long will it take before the class is down to 228 students? Your solutions to problems 21 & 22 must include an equation and identification of the variable. Answer in a short, complete sentence.

21. The length of a rectangle is 3 feet less than twice its width. If its perimeter is 90 feet, find its dimensions.

22. A worker will lay out wood frames in two rectangles, as shown, and will pour concrete into these frames for a small patio. The length of each rectangle is 2 feet more than its width. If the total length of wood to be used is 64 feet, find the length and width of the rectangles.



(We are ignoring the thickness of the wood.)