

Ch. 2 Practice
Math 90

Name _____
Day or Section _____

Do and show all work on another piece of paper:

Simplify each of the following expression.

- $3x + 2 - 7x + 3$
- $4a - 5 - a + 1$
- $7 - 3(y + 5) - 4$
- $8(2x + 1) - 5(x - 4)$
- Find the value of $2x - 3 - 7x$ when $x = -5$.
- Find the value of $x^2 + 2xy + y^2$ when $x = 2$ and $y = 3$.

Solve the following equations.

- $2x - 5 = 7$
- $2y + 4 = 5y$
- $\frac{1}{2}x - \frac{1}{10} = \frac{1}{5}x + \frac{1}{2}$
- $\frac{2}{5}(5x - 10) = -5$
- $-5(2x + 1) - 6 = 19$
- $0.04x + 4(5x + 1) = 3x + 17$
- $2(t - 4) + 3(t + 5) = 2t - 2$
- $2x - 4(5x + 1) = 3x + 17$
- What number is 15% of 38?
- 240 is 12% of what number?
- If $2x - 3y = 12$, find x when $y = -2$.
- The formula for the volume of a cone is $V = \frac{1}{3}\pi r^2 h$. Find h if $V = 88$ cubic inches, $\pi = \frac{22}{7}$, and $r = 3$ inches.
- Solve $2x + 5y = 20$ for y .
- Solve $h = x + vt + 16t^2$ for v .

Explain x , translate and equation and solve with algebra.

- Dave's MasterCard grew to \$870 in one month. His rate is 2%.
What was his original balance?
- A rectangle is twice as long as it is wide. The perimeter is 60 inches.
What are the length and width?
- A truck rents for a daily rate of \$49.95 plus 39¢ per mile.
How far can you take the truck for a one day rental on a \$100 budget?

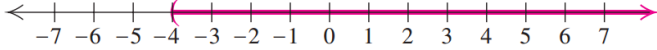
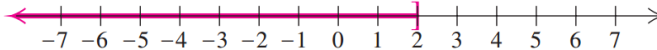
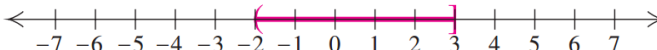
Solve each inequality, and graph the solution.

- $2x + 3 < 5$
- $-5a > 20$
- $0.4 - 0.2x \geq 1$
- $4 - 5(m + 1) \leq 9$

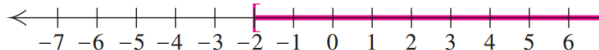
Directions: (1) Determine if the statement is an expression or equation or inequality,
(2) Explain what x represents and (3) Translate into an expression or equation. **DO NOT SOLVE.**

- 19 less than distance.
- 93 minus what number is 48?
- A number is less than or equal to 4.
- One less than twice a number is five.
- Wind speeds were greater than 50 mph.
- The product of 6 and some number.
- One half of the distance.
- Leslie's test score was at least 85.
- 12% of the meal cost.
- Two more than a number is five.

Explain x , translate and equation and solve with algebra.

38. Money is borrowed at 9% simple interest. After one year, \$844.75 pays off the loan. How much was originally borrowed?
39. RJ's Plumbing and Heating charges \$55 plus \$40 per hour for emergency service. Gary remembers being billed over \$150 for an emergency call. How long was RJ's there?
40. Brenda's quiz grades are 92, 70, and 86. What scores on a fourth quiz will make his average quiz grade at least 80?
41. Write the interval and the set builder notation for the graph below.
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42. Write the interval and the set builder notation for the graph below.
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43. Write the interval and the set builder notation for the graph below.
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44. Solve and graph the solution: $-5x \leq 10$.
45. Solve and graph the solution: $6x - 5 > 7x - 8$

Answers

1. $-4x + 5$
2. $3a - 4$
3. $-3y - 12$
4. $11x + 28$
5. 22
6. 25
7. 6
8. $4/3$
9. $x = 2$
10. $-1/2$
11. -3
12. 0.763
13. -3
14. -1
15. 5.7
16. 2000
17. 3
18. $28/3$
19. $\frac{-2}{5}x + 4$
20. $v = \frac{h - x - 16t^2}{t}$
21. \$852.94
22. $w = 10$ in, $l = 20$ in
23. $128 \frac{1}{3}$ miles
24. $x < 1$
25. $a < -4$
26. $x \leq -3$
27. $m \geq -2$
28. Expression, $x =$ distance, $x - 19$
29. Equation, $x =$ number, $93 - x = 48$
30. Inequality, $x =$ number, $x \leq 4$
31. Equation, $x =$ number, $2x - 1 = 5$
32. Inequality, $x =$ wind speed, $x \geq 50$
33. Expression, $x =$ number, $6x$
34. Expression, $x =$ number, $\frac{1}{2}x$
35. Inequality, $x =$ test score, $x \geq 85$
36. Expression, $x =$ meal cost, $0.12x$
37. Equation, $x =$ number, $x + 2 = 5$
38. $x =$ amount borrowed (loan), loan was \$775
39. $x =$ time working
 $55 + 40x > 150$
 RJ worked for more than 2.375 hours.
40. $x =$ fourth quiz
 $(92 + 70 + 86 + x) / 4 \geq 80$
 fourth quiz needs to be 72 or more.
41. $(-4, \infty)$ or $\{x \mid x > -4\}$
42. $(-\infty, 2]$ or $\{x \mid x \leq 2\}$
43. $(-2, 3]$ or $\{x \mid -2 < x \leq 3\}$
- 44.
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- 45.
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