

NAME _____ DATE _____ PER. _____

Solving Equations – Part 2

Solve each equation. Show ALL steps.

1. $7x + 2 = 5x + 8$

2. $4(2x - 5) = 5x + 4$

3. $\frac{n}{4} - 7 = -13$

4. $-32 = 4x$

5. $19 - (p + 3) = 17$

6. $0.2t + 29 - 0.8t = 5$

7. $3(m - 2) - 5 = 8 + 3(m - 4)$

8. $12 - 3(2w + 1) = 7w - 3(7 + w)$

9. $10 - 3x = 31$

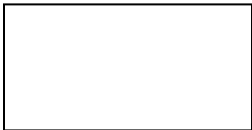
10. $c - 3 = c + 3$

11. $6 - 7(a + 1) = -2a - 6 + 5a$

12. $\frac{1}{3}(18x - 36) = 6x - 12$

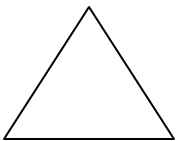
Write an equation for each problem and solve.

13. The length of a rectangle is 5 mm less than 4 times the width. If the perimeter is 75 mm, what is the length of the rectangle?



Equation: _____

14. In a triangle the longest side is 4 inches longer than three times the shortest side. The third side is 2 inches more than the shortest side. If the perimeter of the triangle is 36 inches, find the length of the shortest side.



Equation: _____

15. A house-painting company charges \$376 plus \$12 per hour. Another painting company charges \$280 plus \$15 per hour. How long is a job for which both companies charge the same amount?

Equation: _____

16. The equation $F = \frac{9}{5}C + 32$ changes Celsius temperature to Fahrenheit temperature. If the Fahrenheit temperature is -32.8° , what is the Celsius temperature?

Equation: _____

17. A 14-foot tree casts an 8-foot shadow. At the same time, a nearby flagpole casts a 10-foot shadow. How tall is the flagpole?

Equation: _____

18. Find the solution to: $\frac{-4}{x-2} = \frac{8}{x+5}$

19. Solve: $\frac{10}{r+1} = \frac{-2}{3}$

20. Mr. James bought four tacos and a drink for \$11.35. If all drinks are \$0.99, what is the cost of each taco?

Equation: _____

21. Three more than 25% of a number is equivalent to the difference of that number and 9. Find the number.

Equation: _____

Choose the best answer.

22. Alex is selling poinsettias for the band. He needs to sell 55 poinsettias. So far he has sold p poinsettias. Which expression represents the number of poinsettias that Alex still needs to sell?

a) $55 - p$

c) $55 + p$

b) $\frac{55}{p}$

d) $p - 55$

23. Haley can buy the latest Harry Potter book online for \$21.95. The shipping and handling fee is a one-time charge of 4.95. Which expression can be used to find the cost of buying b Harry Potter books?

a) $(4.95 + 21.95)b$

c) $21.95b + 4.95$

b) $b + 4.95 + 21.95$

d) $21.95 + 4.95b$

24. For which equation is -6 a solution?

a) $17 - r = 13$

b) $12 + r = -6$

c) $-13 + r = -7$

d) $r + 5 = -1$

25. Which equation below shows a correct first step for solving $\frac{x}{5} = -20$?

a) $\frac{x}{5} + 5 = -20 + 5$

c) $5\left(\frac{x}{5}\right) = 5(-20)$

b) $\frac{x}{5} - 5 = -20 - 5$

d) $\frac{5x}{5} = \frac{-20}{5}$

Write an equation for each of the following situations. **DO NOT SOLVE!**

26. Teresa withdrew \$25 from her savings account. After her withdrawal she only had \$6. How much money was in the account before the withdrawal?

27. Ahsan has 6 more CDs than Camelio. If Ahsan has 25 CDs, how many CDs does Camelio have?

28. The sum of an integer and 25 is 6. Which equation could be used to find the integer?

Review...from 8th grade.

29. Find the value of $3m - n + 5p$ if $m = -4$, $n = 3$, and $p = -\frac{2}{3}$.

30. Simplify $7 - 3(4x - 1) + 2x$

Answers in random order:

| | | | | |
|-----|---------------|-----------------|-------------|------------------|
| -36 | 32 | -16 | 2.59 | $x - 25 = 6$ |
| -7 | 40 | -8 | A | $x + 25 = 6$ |
| 29 | -1 | $-\frac{1}{3}$ | C | $x + 6 = 25$ |
| 3 | 8 | 17.5 | C | No solution |
| 6 | 3 | 16 | D | No solution |
| -24 | $\frac{1}{2}$ | $-\frac{55}{3}$ | $-10x + 10$ | All real numbers |