

Algebra I Summer Assessment – Unit 3

Community

Personalization

Progress

Purpose

Name: _____

Unit 3 Summer Summative Assessment Answer Sheet

3.1 Solve One-Step Equations

7. _____

8. _____

9. _____

22. _____

26. _____

3.2 Solve Two-Step Equations

7. _____

8. _____

9. _____

24. _____

27. _____

3.3 Solve Multi-Step Equations

10. _____

11. _____

22. _____

23. _____

24. _____

3.4 Solve Equations with Variables on Both Sides

10. _____

11. _____

17. _____

18. _____

19. _____

3.5 Write Ratios and Proportions

7. _____

8. _____

14. _____

15. _____

22. _____

3.6 Solve Proportions Using Cross Products

10. _____

11. _____

12. _____

22. _____

28. _____

3.7 Solve Percent Problems

15. _____

16. _____

21. _____

22. _____

29. _____

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3.1 Solve One Step Equations

Solve the equation.

7. $x + 6 = 14$

8. $n + 3 = 8$

9. $15 = w + 4$

22. $\frac{1}{2}n = 13$

26. **Exercising** Every week, you run for cardiovascular fitness and lift weights for strength training. You spend about $\frac{1}{3}$ of your weekly exercising time lifting weights. You exercise 12 hours a week. How much time do you spend lifting weights?

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3.2 Solve Two-Step Equations

Solve the equation.

7. $4n + 8 = 12$

8. $5y + 2 = 17$

9. $8x - 15 = 1$

24. $12m - 3m = 18$

27. **Water Skiing** You and your family are taking a vacation at a lake. Your family paid a total of \$1720 to rent a boat for 5 days along with a set of water ski equipment. The total cost of the rental is the sum of the amount paid for the water ski equipment and the amount paid for the boat rental. You were charged \$45 for the equipment rental. What did you pay per day for the boat rental?

Cost per day for boat rental	•	Number of days of boat rental	+	Cost of equipment rental	=	Total amount paid
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3.3 Solve Multi-Step Equations

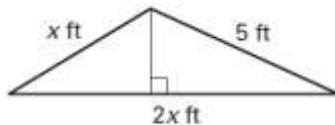
Solve the equation.

10. $3a + 2a + 7 = 12$

11. $9n - 4 + n = 16$

Find the value of x for the triangle or rectangle.

22. Perimeter = 17 feet



23. Perimeter = 18 meters



24. **Target Heart Rate** The target heart rate is the heartbeat rate during aerobic exercise that provides a benefit to your heart. The target heart rate for a person exercising at 70% intensity is given by the equation $y = 0.7(200 - x)$ where y is the target heart rate in beats per minute and x is the person's age in years.
- a. How old is a person with a target heart rate of 133 beats per minute?

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3.4 Solve Equations with Variables on Both Sides

Solve the equation, if possible.

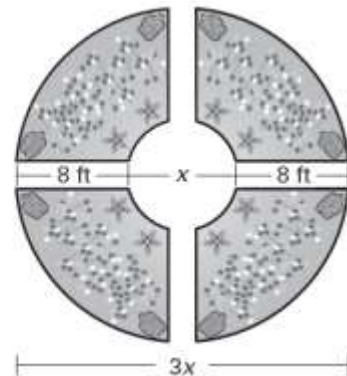
10. $9x - 2 = 8x + 7$

11. $5n - 3 = 3n + 1$

17. $6 + x = 6(x - 5)$

18. $7(b + 3) = 7b - 4$

- 19. Dimensions of a Circular Flower Garden** A flower garden has the shape shown. The diameter of the outer circle is three times the diameter of the inner circle. The lengths of the walkways are 8 feet long. What is the diameter of the inner circle?



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3.5 Write Ratios and Proportions

Solve the proportion.

7. $\frac{3}{4} = \frac{x}{8}$

8. $\frac{1}{5} = \frac{m}{30}$

14. $\frac{6}{8} = \frac{c}{12}$

15. $\frac{n}{8} = \frac{9}{12}$

- 22. Invitations** You are making party invitations by hand. It has taken you 45 minutes to make 6 cards. If you continue at this rate, how many cards can you make in 2 hours (120 minutes)?

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3.6 Solve Proportions Using Cross Products

Solve the proportion.

10. $\frac{4}{5} = \frac{12}{x}$

11. $\frac{6}{m} = \frac{30}{40}$

12. $\frac{7}{3} = \frac{56}{a}$

22. **Printing Pictures** Your digital camera printer printed 5 pictures in 7.5 minutes. At this rate, how long will it take you to print 18 pictures?

28. **Model Dam** You created a model of the Grand Coulee Dam, located in the state of Washington, using a scale of 1 cm : 20 m. Your model is 15 centimeters tall. Estimate the actual height of the Grand Coulee Dam.

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3.7 Solve Percent Problems

Use a proportion to answer the question.

15. What percent of 20 is 6?

16. What percent of 130 is 52?

Use the percent equation to answer the question.

21. What percent of 60 is 6?

22. What percent of 80 is 12?

29. Research Paper You have written 4 pages of a research paper. This is 80% of the number of pages you need to complete the paper. How many pages is the paper supposed to be?