



Investigation

Camel Crossing the Desert

A camel rests by a pile of 3000 bananas at the edge of a 1000-mile-wide desert. He plans to travel across the desert, transporting as many bananas as possible to the other side. He can carry up to 1000 bananas at any given time, but he must eat one banana at every mile.

What is the maximum number of bananas the camel can transport across the desert? How does he do it? Work as a group and prepare a written or visual solution.



Next 1000 miles

Name _____ Class _____ Date _____

Practice 1-5**Absolute Value Equations and Inequalities**

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 Write each specification as an absolute value inequality.

1. $6.3 \leq h \leq 10.3$

2. $-2.5 \leq a \leq 2.5$

3. $22 \leq x \leq 33$

Solve each inequality. Graph the solutions.

4. $|x + 5| > 12$

5. $|k - 3| \leq 19$

6. $|x + 2| \geq 0$

7. $2|t - 5| < 14$

8. $|3x - 2| + 7 \geq 11$

9. $5|2b + 1| - 3 \leq 7$

10. $|2 - 3w| \geq 4$

11. $-3|7m - 8| < 5$

12. $|2u| > 6$

Solve each equation. Check for extraneous solutions.

13. $|4x| = 28$

14. $|3x + 6| = -12$

15. $|z - 1| = 7z - 13$

16. $|s + 12| = 15$

17. $|-3x| = 63$

18. $2|5x + 3| = 16$

19. $|6x + 7| = 5x + 2$

20. $|7r - 4| = 24$

21. $|3c| + 2 = 11$

22. $5|x + 1| + 6 = 21$

23. $|3x + 5| - 2x = 3x + 4$

24. $-|d + 2| = 7$

Write an absolute value inequality and a compound inequality for each length x with the given tolerance.

25. a length of 4.2 cm with a tolerance of 0.01 cm

26. a length of 3.5 m with a tolerance of 0.2 cm

27. a length of 10 ft with a tolerance of 1 in.

28. Write an absolute value inequality and a compound inequality for the temperature T that was recorded to be as low as 65°F and as high as 87°F on a certain day.29. The weight of a 40-lb bag of fertilizer varies as much as 4 oz from the stated weight. Write an absolute value inequality and a compound inequality for the weight w of a bag of fertilizer.30. The duration of a telephone call to a software company's help desk is at least 2.5 minutes and at most 25 minutes. Write an absolute value inequality and a compound inequality for the duration d of a telephone call.

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