

Name: _____ Date: _____

Who's Closest?

Adding and Subtracting Decimals

Karla likes to watch a game show called "Who's Closest?". On the show, each of two contestants is given a certain amount of money to spend. Then each contestant has 25 seconds to choose from a list of prizes whose costs are given. The winner is the contestant who comes closest to the amount of money they are given to spend without going over. Play the game "Who's Closest?" with a classmate using the list of prizes and costs at the right. Decide who will be Contestant 1 and who will be Contestant 2. As Contestant 1 chooses prizes, Contestant 2 records the choices. Then switch places and let Contestant 2 choose while Contestant 1 records. After both contestants have chosen their prizes, use your calculator to add the costs and determine who came the closest without going over. Remember, you have 30 seconds to make your choices!

Prize	Cost
Refrigerator	\$899.95
Bedroom Suite	\$1,209.70
Computer	\$5,535.89
TV	\$788.25
VCR	\$357.45
Camera	\$148.90
Stereo	\$999.99
Boat	\$10,785.50
Vacation	\$5,995.65
Telephone	\$217.25
Car	\$15,599.49
Bike	\$350.50
Jewelry	\$9,876.95
Microwave	\$455.65
RV	\$15,675.35

Contestant 1: \$16,789.50



Contestant 2: \$20,005.99

Thinking Cap



Choose your own amounts for the two contestants. Play the game again using these amounts. Do you think the game could be unfair depending upon the amounts chosen for the contestants to spend? Explain.

Who's Closest?

Adding and Subtracting Decimals

Topic: Adding and Subtracting Decimals

Objective: To use the calculator to solve problems involving adding and subtracting decimals.

NCTM Standards: Problem Solving, Reasoning, Computation, and Estimation

Using the Activity:

Students use the calculator in this activity to determine the costs that have been chosen from the given list. They then compare this sum with the given amount of money to see if the sum is less than the amount. If it is, they use the calculator to subtract the sum from the amount to see how close the sum is to the amount. If both contestants are under, the contestant closest to his or her amount wins.

- The **MR** key can be used to store the sum in memory.
- The **MR** key can be used to recall the sum to subtract it from the amount.

Example If Contestant 1 chooses the refrigerator, the TV, the VCR, the boat, and the bike, the total cost is $899.95 + 788.25 + 357.45 + 10785.50 + 350.50 = 13,181.65$. Since $\$13,181.65 < \$16,789.50$, press **MR** to clear the memory and then press **M+** to store 13,181.65 in memory. Then $16789.50 - \text{MR} = 3,607.85$. If Contestant 2 chooses the bedroom suite, the computer, the stereo, the boat, the vacation, and the microwave, the total cost is $1209.70 + 5535.89 + 999.99 + 10785.50 + 5995.65 + 455.65 = 24,982.38$. Since $\$24,982.38 > \$20,005.99$, Contestant 2 is over, so Contestant 1 wins!

Assessment Students should be encouraged to check their answers by estimating the sum of the costs and comparing the estimate to the actual sum.

Answers

Answers will depend upon the prizes chosen.

Thinking Cap

Encourage students to use a wide variety of different amounts so they can examine the possibility of the game being unfair depending upon the amounts chosen.

Answers *Answers will depend upon the amounts chosen. The results could be unfair if the amount of money given to a contestant was too high or too low. For example, if the amount was less than the cost of any one prize, then there would be no way that contestant could win. If the amount was too high, then the contestant could pick any combination of the prizes and still be under his or her amount.*