Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Z-Scores

For 23 Kellogg’s cereals, the average sugar content was 7.6 grams per serving. The standard deviation was 4.5 grams.

1) Find the z-scores for the following cereals **and** describe what the z-score tells about that cereal:

a) Frosted Flakes: 11 grams of sugar per serving

b) Apple Jacks: 14 grams of sugar per serving

c) Crispex: 3 grams of sugar per serving

2) The z-score for Honey Smacks’ sugar content is a very high 3.871. How many grams of sugar are in one serving?

3) Product 19 is very low in sugar, with a z-score of – 0.8. How many grams are in a serving of this cereal?

The men’s super combined skiing event consists of two races, a downhill and a slalom, with the times added together to determine the winner. At the 2010 Winter Olympics, the mean slalom time was 52.67 seconds with a standard deviation of 1.614 seconds. The mean downhill time was 116.26 seconds with a standard deviation of 1.914 seconds.

Bode Miller of the United States, who won the gold medal, skied the slalom in 51.01 seconds and the downhill in 113.91 seconds.

1) What was his combined time for the two races in the event?

2) What was his z-score for the slalom?

3) What was his z-score for the downhill?

4) For which race was his time closer to the mean?

5) On which race did he do better compared to the competition? Explain your answer.