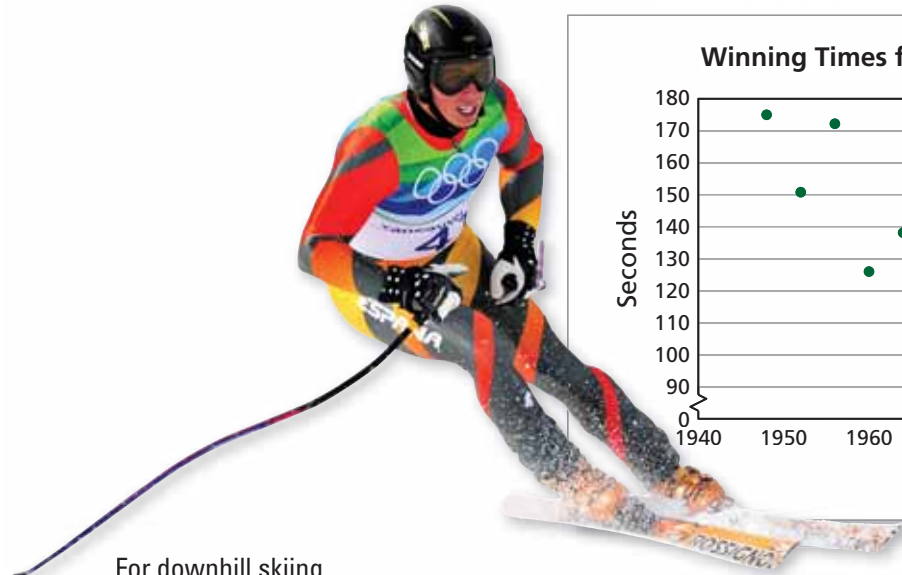
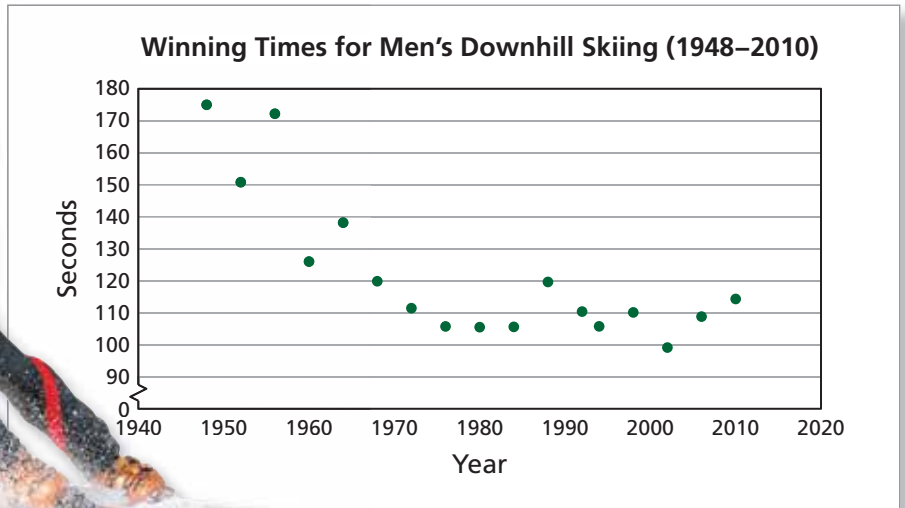


EXAMPLE 4 Analyzing Winning Times

Downhill skiing has been an event at the Winter Olympics since 1948. Before 1964, the skiers' times were measured to the nearest tenth of a second. Since 1964, the times have been measured to the nearest one-hundredth of a second. Describe the pattern of the winning times.



For downhill skiing, remember that the local skiing and weather conditions may affect skiers' times.



SOLUTION

From 1948 through 1976, the winning times decreased dramatically. Since 1968, the winning times seem to have clustered between 105 seconds and 120 seconds. The one time since 1968 that it was out of this range was 2002, when the winning time by Fritz Strobl (Austria) was only 99.13 seconds. To travel about 2 miles in 100 seconds, Strobl had an average speed of about

$$\frac{2 \text{ mi}}{100 \text{ sec}} = \frac{2 \text{ mi}}{100 \text{ sec}} \times \frac{60 \text{ sec}}{1 \text{ min}} \times \frac{60 \text{ min}}{1 \text{ hr}} = 72 \text{ mph.}$$

✓ Checkpoint

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In 2010, the men's downhill skiing course had a vertical drop of 2799 feet. The course length was 1.929 miles. The time differences between the medalists were the closest in the history of the event at the Olympics. Graphically represent the top 15 times (shown in seconds).

 114.31,	 114.38,	 114.40,	 114.52,	 114.64,
 114.67,	 114.82,	 114.84,	 114.87,	 114.88,
 115.02,	 115.19,	 115.19,	 115.26,	 115.29