30. **TAKS REASONING** The table shows the results (in meters) for the final round of the 2004 and 1964 men's Olympic javelin throw events.

Men's Olympic Javelin Throw	
2004 data	**1964 data**
86.50, 84.95, 84.84, 84.13, 83.31, 83.25, 83.14, 83.01, 80.59, 80.28, 79.43, 74.36	82.66, 82.32, 80.57, 80.17, 78.72, 76.94, 74.72, 74.26

a. **Calculate** Find the mean, median, mode, range, and standard deviation of the 2004 data.

b. **Calculate** Find the mean, median, mode, range, and standard deviation of the 1964 data.

c. **Analyze** *Compare* the statistics for each set of data. Draw one or more conclusions about the data.

31. **CHALLENGE** The mean discussed in this lesson is called the *arithmetic mean*. Another type of mean is the *geometric mean*. The geometric mean of two positive numbers a and b is $\sqrt{ab}$. Use the steps below to prove that the arithmetic mean of a and b is always greater than or equal to the geometric mean of a and b.

a. *Explain* why $(a - b)^2 \geq 0$.

b. Use the inequality in part (a) to show that $(a + b)^2 \geq 4ab$.

c. Use the inequality in part (b) to show that the arithmetic mean of a and b is greater than or equal to the geometric mean of a and b, or $\frac{a+b}{2} \geq \sqrt{ab}$.

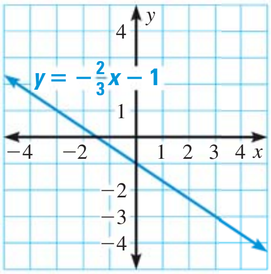
d. Under what condition is the arithmetic mean of a and b equal to the geometric mean of a and b?

MIXED REVIEW FOR TAKS

TAKS PRACTICE at classzone.com

REVIEW
Lesson 2.3;
TAKS Workbook

32. **TAKS PRACTICE** Which best describes the effect on the graph of $y = -\frac{2}{3}x - 1$ when the slope is doubled? *TAKS Obj. 3*



Ⓐ The y-intercept decreases.

Ⓑ The y-intercept increases.

Ⓒ The x-intercept decreases.

Ⓓ The x-intercept increases.

REVIEW
Lesson 9.1;
TAKS Workbook

33. **TAKS PRACTICE** What is the length of the line segment joining the points (8, 3) and (2, −1)? *TAKS Obj. 7*

Ⓕ $2\sqrt{5}$ Ⓖ $\sqrt{34}$ Ⓗ $2\sqrt{13}$ Ⓙ $2\sqrt{26}$

REVIEW
Lesson 2.1;
TAKS Workbook

34. **TAKS PRACTICE** Which equation describes a relationship in which every real number x corresponds to a negative real number y? *TAKS Obj. 10*

Ⓐ $y = x$ Ⓑ $y = x^2$ Ⓒ $y = |-x|$ Ⓓ $y = -|x|$