39. MULTI-STEP PROBLEM In a physics class, 7 groups of students experimentally determine the acceleration (in meters per second per second) of an object in free fall. The table below shows the value calculated by each group.

Group	1	2	3	4	5	6	7
Calculated value (m/sec^2)	10.50	9.52	9.73	9.86	9.78	10.90	9.86

a. Calculate Find the mean of the measured values given in the table. Round to the nearest hundredth.

b. Solve When writing up their lab reports, the students wanted to state that the absolute deviation of each measured value x from the mean was at most d. What is the value of d in this situation?

40. TAKS REASONING *Relative absolute deviation* of a number from a given value is the absolute deviation expressed as a percent of the given value. A wildlife biologist estimates that the number of pronghorn antelopes in Nevada is 18,000 with a relative absolute deviation of at most 20%.

a. Calculate Find the absolute deviation from the estimated population of pronghorn antelopes by multiplying the estimated population by the relative absolute deviation.

b. Solve Write and solve an inequality to find the possible numbers of pronghorn antelopes in Nevada.

c. Explain If the relative absolute deviation were 25%, could you conclude that the actual population is necessarily greater than if the relative absolute deviation were 20%? *Explain* your reasoning.

41. CHALLENGE According to the rules for a women's figure skating event, a skater should finish a routine in an ideal time of 3 minutes 30 seconds. The skater receives a 0.1 point penalty if the absolute deviation of the finishing time from the ideal time is greater than 10 seconds *and* less than or equal to 20 seconds. Write and solve an inequality to find the finishing times for which the skater receives a 0.1 penalty point.

MIXED REVIEW FOR TAKS

TAKS PRACTICE at classzone.com

REVIEW Lesson 5.1; TAKS Workbook

42. TAKS PRACTICE Which equation describes a function that has a y-intercept of 5 and a slope of $\frac{1}{3}$? *TAKS Obj. 3*

Ⓐ $y = \frac{x}{3} + 5$ Ⓑ $y = \frac{x + 5}{3}$ Ⓒ $y = 5x + \frac{1}{3}$ Ⓓ $y = x + \frac{5}{3}$

REVIEW Skills Review Handbook p. 936; TAKS Workbook

43. TAKS PRACTICE Alyssia's age is 5 years less than half her mother's age. If Alyssia is 25 years old, which equation can be used to determine her mother's age? *TAKS Obj. 10*

Ⓕ $2(x - 5) = 25$ Ⓖ $\frac{x}{2} - 5 = 25$ Ⓗ $2x - 5 = 25$ Ⓙ $\frac{x - 5}{2} = 25$