

- 1 Suppose two sets of test scores have the same mean, but different standard deviations, σ_1 and σ_2 , with $\sigma_2 > \sigma_1$. Which statement best describes the variability of these data sets?
- (1) Data set one has the greater variability.
 - (2) Data set two has the greater variability.
 - (3) The variability will be the same for each data set.
 - (4) No conclusion can be made regarding the variability of either set.

23 The scores on a mathematics college-entry exam are normally distributed with a mean of 68 and standard deviation 7.2. Students scoring higher than one standard deviation above the mean will not be enrolled in the mathematics tutoring program. How many of the 750 incoming students can be expected to be enrolled in the tutoring program?

(1) 631

(3) 238

(2) 512

(4) 119

10 A random sample of 100 people that would best estimate the proportion of all registered voters in a district who support improvements to the high school football field should be drawn from registered voters in the district at a

(1) football game

(3) school fund-raiser

(2) supermarket

(4) high school band concert

18 Kelly-Ann has \$20,000 to invest. She puts half of the money into an account that grows at an annual rate of 0.9% compounded monthly. At the same time, she puts the other half of the money into an account that grows continuously at an annual rate of 0.8%. Which function represents the value of Kelly-Ann's investments after t years?

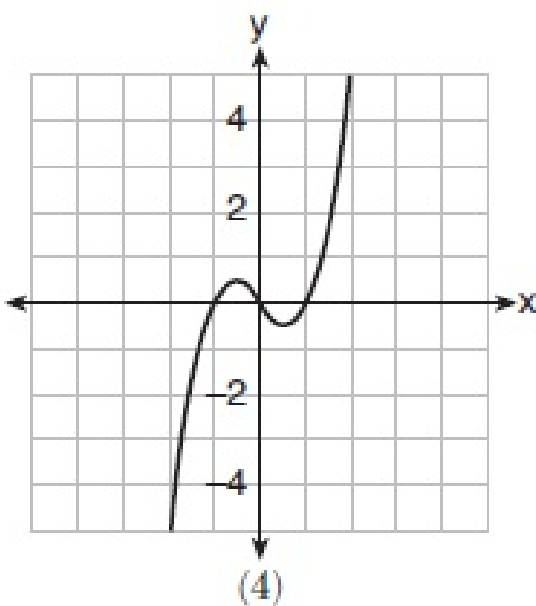
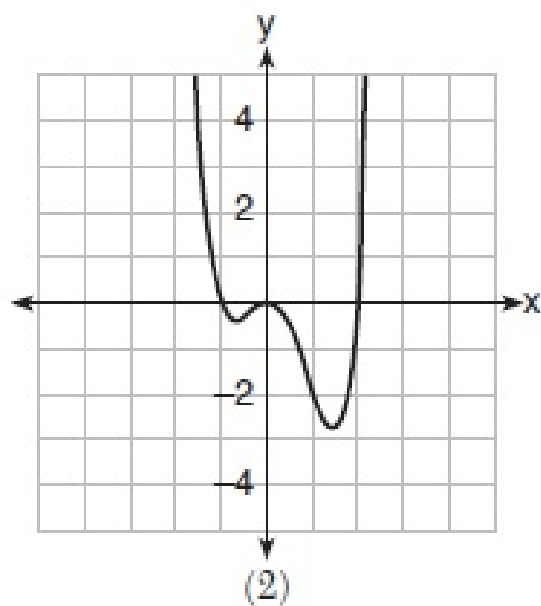
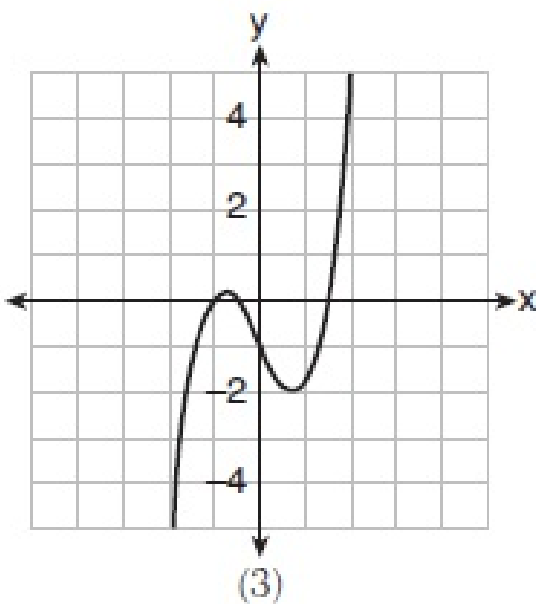
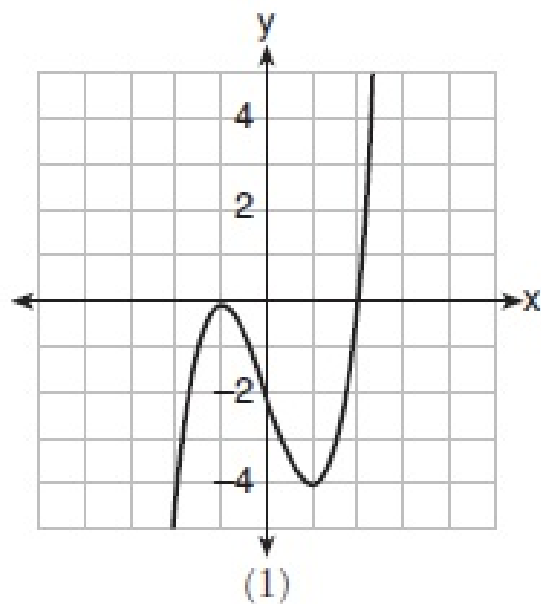
(1) $f(t) = 10,000(1.9)^t + 10,000e^{0.8t}$

(2) $f(t) = 10,000(1.009)^t + 10,000e^{0.008t}$

(3) $f(t) = 10,000(1.075)^{12t} + 10,000e^{0.8t}$

(4) $f(t) = 10,000(1.00075)^{12t} + 10,000e^{0.008t}$

19 Which graph represents a polynomial function that contains $x^2 + 2x + 1$ as a factor?



24 How many solutions exist for $\frac{1}{1-x^2} = -|3x-2| + 5$?

(1) 1

(3) 3

(2) 2

(4) 4