15 ANS:
The manager will receive the greatest weekly revenue from a group of 16 people.

REF: Application OBJ: 4.6 Rates of Change in Business and Economics
LOC: CC1.03, DA6.04
TOP: Using the Derivative to Analyze Polynomial Function Models

16. ANS:
As the function approaches the asymptote at $x = 3$ from the left side, the y values of the function increase without bound (the graph shoots upward).

REF: Communication OBJ: 5.2 Limits and End Behaviour of Rational Functions
LOC: DA1.02 TOP: Rates of Change in Rational Function Models

7. ANS:
There is a jump discontinuity at $x = -$

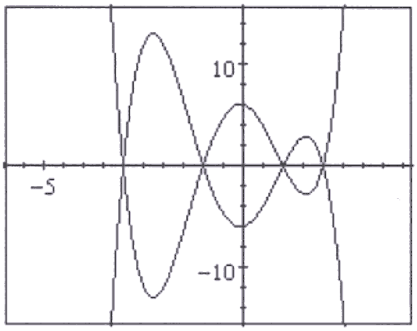
REF: Knowledge and Understanding OBJ: 5.3 Continuity of Rational Functions
LOC: DA1.03 TOP: Rates of Change in Rational Function Models

18. ANS:
The slope of the tangent is –5.75.

REF: Knowledge and Understanding
OBJ: 6.2 Rates of Change for Composite Functions - The Chain Rule
LOC: DA2.02, DA4.01 TOP: Rates of Change in Composite Function Models

PROBLEM

19. ANS:



$g(x)$ must be the reflection of $f(x)$ about the x-axis.
$f(x) \to -\infty$ as $x \to \infty \Rightarrow$ first coefficient is negative $\Rightarrow g(x)$ has a positive first coefficient; the zeros of both are –3, –1, 1 and 2.
$g(x) = k(x + 3)(x + 1)(x - 1)(x - 2), k > 0$

REF: Thinking/Inquiry/PS OBJ: 1.7 Solving Polynomial Inequalities
LOC: AF2.07 TOP: Polynomial Function Models