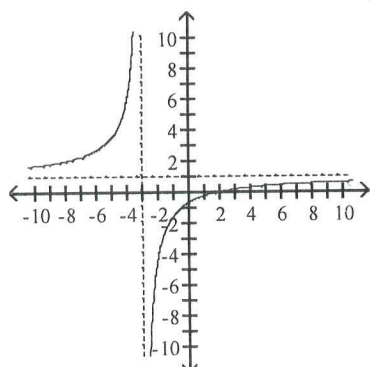


Answer Key

Testname: TRIG-PRE-CALC2.5 TO 2.6 QUIZ REVIEW

- 1) -7 (rational), $2 + \sqrt{13}$ (irrational), and $2 - \sqrt{13}$ (irrational)
- 2) -3 (rational), 5 (rational), $\sqrt{6}$ (irrational), and $-\sqrt{6}$ (irrational)
- 3) $f(x) = x^4 + 4x^3 + 13x^2 + 36x + 36$; zeros -2 (mult. 2), $\pm 3i$
- 4) $f(x) = x^2 + 25$; zeros $\pm 5i$
- 5) $f(x) = x^4 + 6x^2 - 27$
- 6) $f(x) = x^3 - 5x^2 + 7x + 13$
- 7) A
- 8) 3 complex zeros; all 3 real
- 9) 4 complex zeros; 2 real
- 10) $f(x) = x^2(x + 9i)(x - 9i)$
- 11) $f(x) = 5x(x + i)(x - i)$
- 12) $f(x) = (x - 2)(x - 3)(x + 5i)(x - 5i)$
- 13) $(x + 6)(2x^2 + x + 5)$
- 14) $(x - 3)(x + 6)(x^2 + 1)$
- 15) $5x^3 + 5x^2 - 10x$
- 16) $(-\infty, -5) \cup (-5, \infty)$
- 17) $(-\infty, -7) \cup (-7, 0) \cup (0, \infty)$
- 18) $\lim_{x \rightarrow 4^-} f(x) = -\infty$, $\lim_{x \rightarrow 4^+} f(x) = \infty$
- 19) $\lim_{x \rightarrow 0^-} f(x) = \infty$, $\lim_{x \rightarrow 0^+} f(x) = -\infty$, $\lim_{x \rightarrow 2^-} f(x) = -\infty$, $\lim_{x \rightarrow 2^+} f(x) = \infty$
- 20) Shift the graph of the reciprocal function left 7 units, reflect across the x-axis, and then stretch vertically by a factor of 3.
- 21) Shift the graph of the reciprocal function left 4 units, reflect across the x-axis, stretch vertically by a factor of 21, and then shift 5 units up.
- 22) Shift the graph of the reciprocal function right 5 units, stretch vertically by a factor of 19, and then shift 4 units up.
- 23) $-\infty$
- 24) $-\infty$
- 25) x-intercept: $(2, 0)$; y-intercept: $\left(0, -\frac{2}{3}\right)$;



- 26) $y = x - 6$
- 27) $x = 1$, $x = -1$
- 28) $y = 2/9$