MAC 1105 Sample Test 3 - KEY

1) $x = \frac{62}{3}$

2) $x = \pm 5i$

3) $x = -3$ or $x = 8$

4) $x = \frac{1 \pm \sqrt{19}}{3}$

5) $x = 2 \pm \sqrt{5}$

6) $x = 1$ only

7) $x = -1, \quad x = 6$

8) $x = -\frac{7}{5}$

9) $x = -1$ only

10) $x \approx -3.45, \quad x \approx 1.45$

11) $x = 1.25, \quad x \approx 3.45$

12) A) $9 + 2i$ B) $2 + 3i$ C) $-10 + 8i$ D) $23 + 2i$ E) $-3i$ F) $\frac{20}{17} - \frac{5}{17}i$

13) Graph $f(x) = x^2 - 8x + 19 = (x - 4)^2 + 3$

B) Domain: $(-\infty, \infty)$

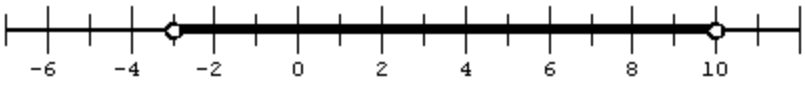
C) Range: $[3, \infty)$

D) Vertex: (4,3)

E) $f(x)$ is increasing on $(4, \infty)$

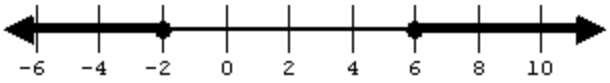
14) $-3 < x < 10$

$(-3,10)$



15) $x \le -2$ or $x \ge 6$

$(-\infty, -2] \cup [6, \infty)$



16) L = 25 ft. , W = $8.\overline{3}$ ft. , Area = $208.\overline{3}$ sq. ft.