

1. Simplify: $(7 + 5i) + (-4 + 2i)$
2. Simplify: $(10 - 8i)(2 - 3i)$
3. Solve by completing the square: $x^2 - 6x + 7 = 0$
4. Solve for x: $-4x^2 + 3x + 85 = 0$
5. The area of a rectangle is 304 square feet. Its perimeter is 70 feet. Find its dimensions.
6. Simplify, then write your result in standard form: $\frac{2 + 5i}{5 - i}$
7. Use the Quadratic Formula to solve for x: $10x^2 - 7x + 4 = 0$, and write your answer in standard form.
8. Write in standard form: $6 - \sqrt{-20}$
9. Solve for x: $9x^3 = 441x$
10. Solve for x: $3x^4 - 19x^2 + 28 = 0$
11. Solve for x: $|4 - 7x| = 10$
12. Solve for x: $\frac{4}{x^2 - 4} + \frac{2}{x + 2} = 9$
13. Solve for x: $5x - 3\sqrt{x} - 7 = 0$
14. Graph the solution: $-11 \leq 4 - 2x < 6$
15. Graph the solution $|5x - 2| > 9$
16. Find the interval for which the radicand is nonnegative: $\sqrt{8 + 6x}$
17. Find the critical number for $2x^2 + 2x - 144$.
18. Solve the inequality: $(x - 4)^2 \leq 36$
19. Find the domain of $\frac{1}{\sqrt{x^2 - 11x - 12}}$
20. Solve the equation: $4x - [7 - 3(3 - 4x)] = 2x - 8$
21. Solve the inequality: $x^2 - 6x - 27 < 0$
22. Write in standard form: $6 + \sqrt{-4}$

ANSWER SHEET CHAPTER 1 TEST

1. $3+7i$
2. $-4-46i$
3. $3\pm\sqrt{2}$
4. $-17/4$ or 5
5. 16 feet x 19 feet
6. $5/26 + 27/26 i$

$$7. \frac{7}{20} \pm \frac{\sqrt{111}}{20} i$$

$$8. 6 - 2\sqrt{5}i$$

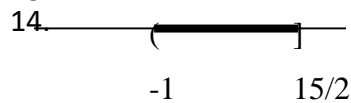
$$9. 0; 7; -7$$

$$10. \pm 2; \pm \frac{\sqrt{21}}{3}$$

$$11. -6/7; 2$$

$$12. \frac{1}{9} \pm \frac{5}{9}\sqrt{13}$$

$$13. \frac{79}{50} + \frac{3}{50}\sqrt{149}$$



$$16. \left[\frac{-4}{3}, \infty \right)$$

$$17. -9, 8$$

$$18. [-2, 10]$$

$$19. (-\infty, -1) \cup (12, \infty)$$

$$20. 1$$

$$21. (-3, 9)$$

$$22. 6 + 2i$$