

Answers

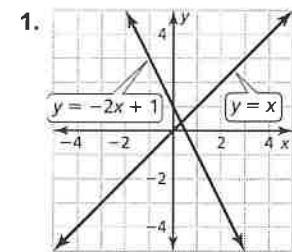
10. The maximum value is 16; domain: all real numbers, range: $y \leq 16$; The function is increasing when $x < -1$ and decreasing when $x > -1$.

11. $\frac{1}{3}$

3.2 Extra Practice

- | | | | |
|---------------------------|-----------------------------------|-----------------|---------------|
| 1. $7i$ | 2. $4i$ | 3. $3i\sqrt{5}$ | 4. $66i$ |
| 5. $-20i$ | 6. $25i\sqrt{3}$ | 7. $-9 + i$ | 8. $24 - 27i$ |
| 9. $-7i$ | 10. $1 + i$ | | |
| 11. $-6 + 136i$ | 12. $45 + 28i$ | | |
| 13. 170 | 14. 97 | | |
| 15. $(5 - 4i)$ ohms | 16. $x = \pm i\sqrt{5}$ | | |
| 17. $x = \pm 2i\sqrt{2}$ | 18. $x = \pm \frac{i\sqrt{3}}{5}$ | | |
| 19. $x = \pm i\sqrt{6}$ | 20. $x = \pm i\sqrt{3}$ | | |
| 21. $x = \pm 2i\sqrt{3}$ | 22. $-5 + 6i, -5 - 6i$ | | |
| 23. a. $\frac{7 - 2i}{3}$ | b. $6 - 2i$ | | |
| 24. $8 + 27i$ | | | |

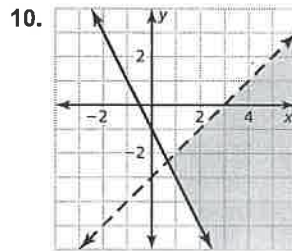
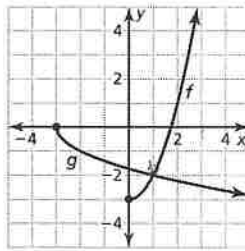
3.2 Review & Refresh



The graph of f is a reflection in the x -axis, followed by a vertical stretch by a factor of 2 and a translation 1 unit up of the graph of the parent linear function.

2. $-675m^3n^9$
3. $\pm i\sqrt{2}$; no; The zeros are imaginary, so the graph of the function does not intersect the x -axis.
4. $y = \frac{1}{32}x^2$
5. $x = -\frac{1}{8}(y + 1)^2 - 3$
6. sandwich: \$5.50, salad: \$6.75

7. $4 + 10i$
8. $-22 - 14i$
9. $g(x) = -\sqrt{x + 3}$



Sample answer: $(2, -2)$

3.3 Extra Practice

- | | |
|-------------------------------------|------------------------------------|
| 1. $x = -2 \pm \sqrt{2}$ | 2. $t = 20 \pm 10\sqrt{3}$ |
| 3. $w = -\frac{1}{3} \pm i\sqrt{2}$ | 4. $r = 3 \pm \sqrt{11}$ |
| 5. $x = -5 \pm i\sqrt{3}$ | 6. $y = \frac{1}{2}$ and $x = -4$ |
| 7. $t = -4 \pm \sqrt{19}$ | 8. $x = -1$ and $x = -\frac{3}{2}$ |
| 9. $x = 3 \pm i\sqrt{19}$ | |
10. factoring; The equation can be factored; $x = 4$ and $x = -5$
11. square roots; The equation can be written in the form $u^2 = d$; $x = -8 \pm 9i$
12. completing the square; The equation cannot be factored or written in the form $u^2 = d$;
 $x = -1 \pm i\sqrt{2}$
13. $f(x) = (x + 3)^2 + 13$; $(-3, 13)$
14. $g(x) = (x + \frac{1}{2})^2 - \frac{5}{4}$; $(-\frac{1}{2}, -\frac{5}{4})$
15. $y = -(x - 6)^2 + 5$; $(6, 5)$