

Algebra 2 - Ch. 1-3 Midterm Review Answer Section

SHORT ANSWER

1. ANS:

$$g(x) = -2|x + 7| + 5$$

REF: Algebra 2 Sec. 1.2

2. ANS:

$$g(x) = 12x + 3$$

REF: Algebra 2 Sec. 1.2

3. ANS:

$$g(x) = \left| \frac{1}{3}x - 2 \right|$$

REF: Algebra 2 Sec. 1.2

4. ANS:

$$g(x) = |8x| + 6$$

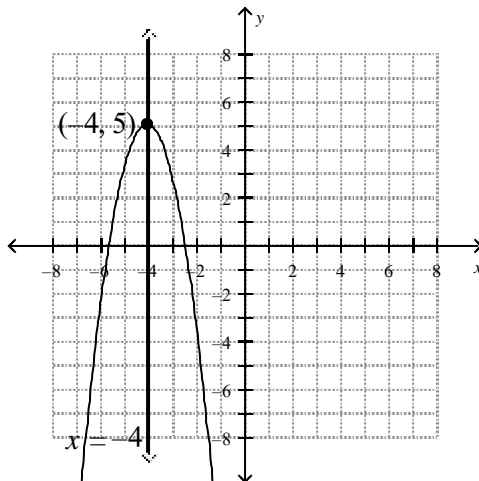
REF: Algebra 2 Sec. 1.2

5. ANS:

$$f(x) = -(2x - 3)^2 - 5; \left(\frac{3}{2}, -5 \right)$$

REF: Algebra 2 Sec. 2.1

6. ANS:



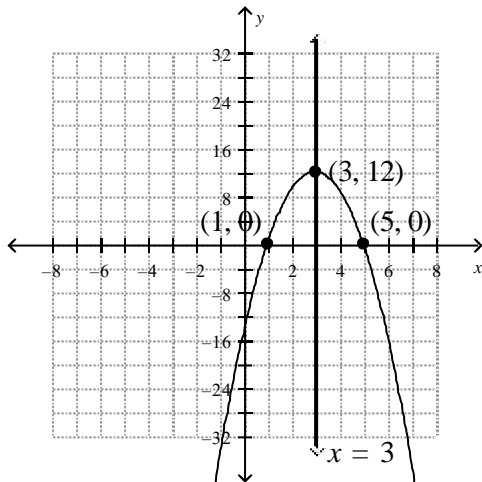
REF: Algebra 2 Sec. 2.2

7. ANS:

$$y = \frac{4}{25}(x + 6)^2 - 6$$

REF: Algebra 2 Sec. 2.4

8. ANS:



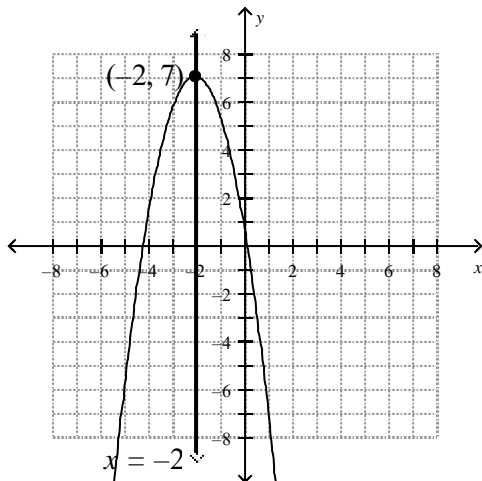
REF: Algebra 2 Sec. 2.2

9. ANS:

$$y = -\frac{1}{2}(x-3)(x+4)$$

REF: Algebra 2 Sec. 2.4

10. ANS:



REF: Algebra 2 Sec. 2.2

11. ANS:

$$x = -8$$

REF: Algebra 2 Sec. 3.1

12. ANS:

$$x = \pm 2i\sqrt{3}$$

REF: Algebra 2 Sec. 3.2

13. ANS:

$$x = 30 \text{ and } y = \frac{8}{9}$$

REF: Algebra 2 Sec. 3.2

14. ANS:

$$5i\sqrt{3}$$

REF: Algebra 2 Sec. 3.2

15. ANS:

$$36 + 14i$$

REF: Algebra 2 Sec. 3.2

16. ANS:

$$8 - 14i$$

REF: Algebra 2 Sec. 3.2

17. ANS:

49; two real solutions

REF: Algebra 2 Sec. 3.4

18. ANS:

$$\frac{225}{4}; \left(p - \frac{15}{2}\right)^2$$

REF: Algebra 2 Sec. 3.3

19. ANS:

$$x = 9 \pm \frac{\sqrt{22}}{2}$$

REF: Algebra 2 Sec. 3.1

20. ANS:

$$x = 3 \pm 2i\sqrt{3}$$

REF: Algebra 2 Sec. 3.3

21. ANS:

$$x = \frac{1 \pm i\sqrt{23}}{4}$$

REF: Algebra 2 Sec. 3.4

22. ANS:

no solution

REF: Algebra 2 Sec. 3.5

23. ANS:

$$(-6, 3) \text{ and } (4, -7)$$

REF: Algebra 2 Sec. 3.5

24. ANS:

$$-5 < x < -2$$

REF: Algebra 2 Sec. 3.6

25. ANS:

about 1.5 sec

REF: Algebra 2 Sec. 3.4

26. ANS:

$$y < -x^2 + 3x + 4$$

REF: Algebra 2 Sec. 3.6

27. ANS:

horizontal shift 2 units left, vertical shrink by a factor of $\frac{1}{3}$, vertical shift 5 units down

REF: Algebra 2 Sec. 2.1