

Accuplacer Advanced Algebra Test Answer Key

Math Physics Resource Center

1 (a) $\frac{2x+9}{(x+5)(x+4)}$

(b) $\frac{30+y^2}{25y}$

(c) $\frac{4}{21}$

2 (a) $x^2 + 12x + 35$

(b) $20x^2 + 30x$

(c) $21x^2 - 8x - 5$

(d) $4x^2 + 20x + 25$

3 (a) $(x - 5)(x - 2)$

(b) $(3x + 1)(x - 2)$

(c) $2(5x + 7)(x + 1)$

(d) $(x + 3)(x - 3)$

(e) $(x^2 + 4)(x + 2)(x - 2)$

(f) $(x - 5)(x^2 + 5x + 25)$

(g) $(2x^2 + 3)(2x + 1)$

4 (a) $12x^3|y|\sqrt{2x}$

(b) $3xy^2\sqrt[3]{2x^2}$

(c) $2y|z|\sqrt{7y}$

(d) $2z\sqrt[3]{6 + z^6}$

(e) $2zy^3\sqrt[3]{3zy^2}$

5 (a) $\frac{27a^2b^{14}}{2c^3}$

(b) $\frac{18a^4b^9}{c^2}$

(c) $\frac{32a^6b^5}{c^4}$

6 (a) $x = \frac{1}{3}, y = 1$

(b) *No solution*

(c) $x = \frac{34}{35}, y = -\frac{6}{5}, z = -\frac{97}{35}$

7 (a) $x = -1, 11$

(b) *No solution*

(c) $x = -7, 13$

(d) *No solution*

8 (a) $x = -5, -2$

(b) $x = -6 \pm i\sqrt{5}$

(c) $x = 17 \pm 2\sqrt{3}$

(d) $x = -5, -\frac{1}{3}$

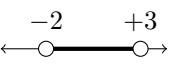
(e) $x = -\frac{1}{2}, -\frac{3}{7}$

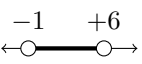
(f) $x = -3, 3$

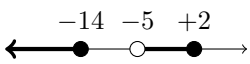
9 (a) $x = 30$

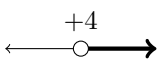
(b) $x = 11 \pm \sqrt{157}$

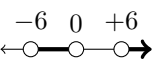
(c) $x = -15$

10 (a) $(-2, 3)$ 

(b) $(-1, -6)$ 

(c) $(\infty, -14] \cup (-5, 2]$ 

(d) $(4, \infty)$ 

(e) $(-6, 0) \cup (6, \infty)$ 

11 (a) A circle, centered at the origin

(b) A parabola, opening right with vertex at $(1, 0)$

(c) A line with slope $-\frac{3}{2}$

12 (a) $3\sqrt{5}$

(b) 5

13 (a) -2

(b) 62

14 (a) $f^{-1}(x) = \frac{1}{5}x - \frac{3}{5}$

(b) $g^{-1}(x) = 3x - 4$

(c) $h^{-1}(x) = -\sqrt{x-3}$

15 (a) $\log(2) + 5\log(x) - 4\log(y)$

(b) $\log\left(\frac{y^5}{64x^3}\right)$

(c) $\log(16x^4\sqrt{y})$ or $\log(16x^4y^{\frac{1}{2}})$

(d) $\log(2x-y) - 2\log(7) - 2\log(z)$

16 (a) $x = \frac{9}{2}$

(b) $x = 3$

(c) $x = 2\ln(2)$

17 (a) $x = \frac{\pi}{3}, \frac{2\pi}{3}, \frac{4\pi}{3}, \frac{5\pi}{3}$

(b) $x = \frac{2\pi}{3}, \pi, \frac{4\pi}{3}$

(c) $t = \frac{\pi}{4}, \frac{5\pi}{4}$

(d) $t = \frac{7\pi}{6}, \frac{11\pi}{6}$

(e) $x = 0, \pi, \frac{\pi}{4}, \frac{3\pi}{4}, \frac{5\pi}{4}, \frac{7\pi}{4}$