

- PS 6:** 2. 7° 4. Right Triangle 6. $\frac{40}{7}$ 8. 16 10. $x = 21; y = 5$
 12. $x = 1; y = 2; z = 1$ 14. $x^{\frac{-5a-6}{3}} y^{\frac{b-2a-2}{3}}$ 16. $\frac{x+y}{y^2}$ 18. $(\sqrt{6}-2) + (3-\sqrt{2})i$
 20. $5\sqrt{2}$ 22. Refer to Lesson 4 24. $a = \frac{18}{5}; b = \frac{20}{3}$ 26. $18\pi cm^2$
 28. $16.73cm^2$ 30. C

- PS 7:** 2. If the student is an advanced math student, then the student is intelligent.
 4. If the coach is not happy, then the team did not win.
 6. If the motor is on, then the car is moving. Valid. 8. $N = 90; D = 130$

10. $-\frac{38}{13}$ 12. $\frac{11}{2}$ 14. $x^{\frac{26}{15}} y^{\frac{6}{5}}$ 16. $\frac{b+a^2}{ab^2}$ 18. $-3 + 3i$ 20. $3 - 14i$ 22. $\sqrt{20+m^2}$
 24. $a = 5\sqrt{2}; b = 7\sqrt{2}; c = 5$ 26. $33\pi m^2$ 28. $32\pi m^2$ 30. C

- PS 8:** 2. 56 4. $A=74^\circ; B=84^\circ$ 6. Valid 8. 5, 7, 9 10. 3 12. $x = 3; y = 2; Z = 1/2$
 14. $x = 5, y = 3$ 16. 5 18. $6x^a - 2x^{\frac{a}{2}}y^{\frac{b}{3}} - 4y^{\frac{2b}{3}}$ 20. $2 + (10 + \sqrt{3})i$ 22. Refer to Lesson 4
 24. Refer to Lesson 4 26. $x = 20; y = 10$ 28. $\frac{220+20\pi}{3} \approx 94.277 cm^3$ 30. 100

- PS 9:** 2. $N_b = 100; N_g = 200$ 4. Invalid 6. -8, -7, -6, -5 8. Obtuse Triangle
 10. $\triangle ABD \cong \triangle CBD$ by SAS congruency postulate 12. $\frac{29\sqrt{6}}{6}$ 14. $4x^a - y^b$ 16. 3
 18. $x = 2; y = -1; z = 3$ 20. $a = 3\sqrt{7}; b = 3\sqrt{42}; h = 3\sqrt{6}$ 22. 12 24. Refer to Lesson 4.
 26. $a = \frac{5}{2}; b = \frac{24}{5}$ 28. $200 cm^3$ 30. A

- PS 10:** 2] $D = 42, Q = 100$ 4] -8, -6, -4 6] $y = 2x - 7$ 8] 16i 10] $\frac{1}{10} + \frac{4}{5}i$
 12] 6, -2 14] Valid 16] $\triangle BCD \cong \triangle AED$ by AAS 18] $\triangle QSR \approx \triangle PSQ$ so $\frac{SR}{SQ} = \frac{QR}{PQ}$
 20] 2 22] $x = 4, y = 2, z = 1$ 24] $x^{\frac{27-2a}{6}} y^{\frac{-5a}{3}}$ 26] Refer to L 4
 28] $Vol = 36\pi \approx 113.097 in^3$ and $SA = 36\pi \approx 113.097 in^2$ 30] C