

# Assign 24

New: No calc

BOOK:

Pg 314: 7-15 odd, 21-49 odd, 57, 59

$$7. \sqrt[4]{-98m^2n^2} = \boxed{7imn\sqrt{2}} \text{ or } \boxed{7mn\sqrt{2}i}$$

$$9. \underbrace{5\sqrt{-24}}_{4.2} \cdot \underbrace{3\sqrt{-18}}_{4.2} = 10i\sqrt{6} \cdot 9i\sqrt{2} = 90i^2\sqrt{12} = -90\sqrt{12} = \boxed{-180\sqrt{3}}$$

$$11. i^{16} \rightarrow 4\sqrt[4]{16} \rightarrow i^{16} = i^0 = \boxed{1}$$

$$13. (4+2i) + (1+3i) = \boxed{5+5i}$$

$$15. (3+2i)(3-2i) = 9 - 4i^2 = 9 + 4 = \boxed{13}$$

$$21. \sqrt{\frac{-4}{9}} = \boxed{\frac{2}{3}i}$$

$$23. \sqrt{-100k^4} = 10ik^2 \text{ or } \boxed{10k^2i}$$

$$25. \sqrt{\frac{-9x^3}{25y^8}} = \frac{\sqrt{-9x^3}}{\sqrt{25y^8}} = \boxed{\frac{3i\sqrt{x}}{5y^4}}$$

$$27. (4i)(-5i)(3i) = (20i^2)(3i) = (-20)(3i) = \boxed{-60i}$$

$$29. (\sqrt{-11})(\sqrt{-22}) = (i\sqrt{11})(i\sqrt{22}) = i^2\sqrt{11 \cdot 11 \cdot 2} = 11i^2\sqrt{2} = \boxed{-11\sqrt{2}}$$

$$31. \sqrt{-8} \cdot \sqrt{-18} = i\sqrt{4 \cdot 2} \cdot i\sqrt{9 \cdot 2} = 2i\sqrt{2} \cdot 3i\sqrt{2} = -6(2) = \boxed{-12}$$

$$33. \underbrace{\sqrt{-8}}_{4.2} \cdot \underbrace{\sqrt{-16}}_{4.2} = 2i\sqrt{2} \cdot 4i = 8i^2\sqrt{2} = \boxed{-8\sqrt{2}}$$

New cont

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cont

$$35. i^{17} \rightarrow 4 \sqrt[4]{17} = i^{17} = i^1 = \boxed{i}$$

$$37. i^{34} \rightarrow 4 \sqrt[4]{34} \rightarrow i^{34} = i^2 = \boxed{-1}$$

$$39. (4-i) + (3+3i) = \boxed{7+2i}$$

$$41. (7-6i) - (5-6i) = 7-6i-5+6i = \boxed{2}$$

$$43. (1-i\sqrt{3}) - (-4+i\sqrt{5}) = 1-i\sqrt{3}+4-i\sqrt{5} = \boxed{5-i\sqrt{3}-i\sqrt{5}}$$

$$45. (4-i)(3+2i) = 12+8i-3i-2i^2 \\ = 12+5i+2 \\ = \boxed{14+5i}$$

$$47. (2-i\sqrt{3})(2+i\sqrt{3}) = (2-i\sqrt{3})(2+i\sqrt{3}) \\ = 4+2i\sqrt{3}-2i\sqrt{3}-i^2(3) \\ = 4+3 \\ = \boxed{7}$$

$$49. (3+2i)^2 + (3+4i)^2 = 9+6i+6i+4i^2 + 9+12i+12i+16i^2 \\ = 9+12i-4 + 9+24i-16 \\ = 5+12i-7+24i \\ = \boxed{-2+36i}$$

$$57. (7-5i)(7+5i)(2-3i) = (49-25i^2)(2-3i) \\ = (49+25)(2-3i) \\ = 74(2-3i) \\ = \boxed{148-222i}$$



Review cont

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$$6. \pm \sqrt{16m^2 - 24mn + 9n^2} = \pm \sqrt{(4m - 3n)^2}$$

$$= \pm (4m - 3n)$$

$$7. \frac{y^{\frac{5}{6}}}{y^{\frac{1}{6}}} = y^{\frac{4}{6}} = \boxed{y^{\frac{2}{3}}}$$

$$8. (4x^6 y^8)^{\frac{3}{2}} = 4^{\frac{3}{2}} x^{\frac{3}{2} \cdot 6} y^{\frac{3}{2} \cdot 8} = \boxed{8x^9 y^{12}}$$

$$9. x^{\frac{1}{2}} y^{\frac{1}{3}} = x^{\frac{3}{6}} y^{\frac{2}{6}} = \boxed{\sqrt[6]{x^3 y^2}}$$

$$10. a^{\frac{5}{6}} b^{\frac{7}{3}} c^{\frac{2}{2}} = a^{\frac{5}{6}} b^{\frac{14}{6}} c^{\frac{9}{6}} = \sqrt[6]{a^5 b^{14} c^9}$$

$$= \boxed{b^2 c \sqrt[6]{a^5 b^2 c^3}}$$

$$11. w^{\frac{2}{7}} n^{\frac{5}{3}} = w^{\frac{9}{21}} n^{\frac{35}{21}} = \sqrt[21]{w^9 n^{35}} = \boxed{n^{\frac{21}{21}} \sqrt[21]{w^9 n^{14}}}$$

Book

pg 886 (5-4): 3, 19, 27, 28

$$3. x^2 + x - 42 = \boxed{(x+7)(x-6)} \quad \begin{matrix} 7 \cdot -6 = -42 \\ 7 + -6 = 1 \end{matrix}$$

$$19. a^4 - 81b^4 = (a^2 - 9b^2)(a^2 + 9b^2) = \boxed{(a-3b)(a+3b)(a^2 + 9b^2)}$$

$$27. 5h^2 - 10hj + h - 2j = 5h(h-2j) + 1(h-2j)$$

$$= \boxed{(5h+1)(h-2j)}$$

$$28. 16r^2 - 24r + 9 = 16r^2 - 12r - 12r + 9$$

$$\begin{matrix} -12 \cdot -12 = 144 \\ -12 + -12 = -24 \end{matrix} \quad \begin{matrix} = 4r(4r-3) - 3(4r-3) \\ = (4r-3)(4r-3) \\ = \boxed{(4r-3)^2} \end{matrix}$$

Review cont

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cont

BOOK

Pg 916: 13, 14, 17

$$13. 3\sqrt{6} + 5\sqrt{6} = 3\sqrt{6} + 15\sqrt{6} = \boxed{18\sqrt{6}}$$

$$14. \frac{9 \cdot (5+\sqrt{3})}{5-\sqrt{3} \cdot (5+\sqrt{3})} = \frac{45+9\sqrt{3}}{25-3} = \boxed{\frac{45+9\sqrt{3}}{22}}$$

$$17. \sqrt[6]{25t^6 s^{11} t^8} = \boxed{2st^3 \sqrt[6]{4s^5}}$$

Pg: 293: 12, 14, 26, 40, 56, 60

$$12. \sqrt[4]{81m^4n^5} = \boxed{3mn \sqrt[4]{n}}$$

$$14. \sqrt{3x^2z^3} \cdot \sqrt{15x^2z} = xz\sqrt{3z} \cdot x\sqrt{15z} \\ = x^2z\sqrt{3 \cdot 3 \cdot 5z} \\ = \boxed{3x^2z^2\sqrt{5}}$$

$$26. \sqrt{98y^4} = \boxed{7y^2\sqrt{2}}$$

$$40. (\sqrt{10} - \sqrt{6})(\sqrt{5} + \sqrt{3}) = \sqrt{50} + \sqrt{30} - \sqrt{30} - \sqrt{18} \\ = 5\sqrt{2} - 3\sqrt{2} \\ = \boxed{2\sqrt{2}}$$

$$56. \frac{2+\sqrt{6}}{2-\sqrt{6}} \cdot \frac{(2+\sqrt{6})}{(2+\sqrt{6})} = \frac{4+2\sqrt{6}+2\sqrt{6}+6}{4-6} = \frac{10+4\sqrt{6}}{-2} = \boxed{-5-2\sqrt{6}}$$

$$60. (4\sqrt{5} - 3\sqrt{2})(2\sqrt{5} + 2\sqrt{2}) = 8(5) + 8\sqrt{10} - 6\sqrt{10} - 6(2) \\ = 40 + 2\sqrt{10} - 12 \\ = \boxed{28 + 2\sqrt{10}}$$

