Feb 18 Wed HW Pg 39 #1 bdf, 3 bdf, 4 E, 7 bdf, 8c, 9abd, 10, 12, 14, 15

1. b) $\sqrt{3}(5\sqrt{2}) = 5\sqrt{6}$ ✓

d) $-20\sqrt{15}$ ✓

f) $6\sqrt{22}$ ✓

3 b) $7\sqrt{5} - 11\sqrt{5} = -4\sqrt{5}$ ✓

d) $5\sqrt{2} - 4\sqrt{5}$ ✓

f) $-3\sqrt{10} + \sqrt{5}$ ✓

4 e) $5\sqrt{3} - \sqrt{6\times 12} + \sqrt{3\times 81} + \sqrt{8}$

$= 5\sqrt{3} - \sqrt{2\times 3\times 4\times 3} + \sqrt{3\times 9^2} + \sqrt{4\times 2}$

$= 5\sqrt{3} - (\sqrt{2^2})(\sqrt{3^2})(\sqrt{2}) + (\sqrt{9^2})(\sqrt{3}) + (\sqrt{2^2})\sqrt{2}$

$= 5\sqrt{3} - (2\cdot 3\cdot\sqrt{2}) + (9\sqrt{3}) + 2\sqrt{2}$

$= 5\sqrt{3} + 9\sqrt{3} - 6\sqrt{2} + 2\sqrt{2}$

$= 14\sqrt{3} - 4\sqrt{2}$ ✓

7 b) $(2\sqrt{2} + 4)(\sqrt{2} - 4)$

$= 2\cdot 2 - 4\cdot 2\sqrt{2} + 4\sqrt{2} - 16$

$= 4 - 8\sqrt{2} + 4\sqrt{2} - 16$

$= -12 - 4\sqrt{2}$ ✓

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7d) $(3+2\sqrt{5})(\sqrt{5}-5)$

$= 3\sqrt{5} - 15 + (2\cdot 5) - 10\sqrt{5}$

$= 3\sqrt{5} - 15 + 10 - 10\sqrt{5}$

$= -5 - 7\sqrt{5}$ ✓

7f) $(4-3\sqrt{7})(\sqrt{7}+1)$

$= 4\sqrt{7} + 4 - 3\cdot 7 - 3\sqrt{7}$

$= \sqrt{7} + 4 - 21 = -17 +$ ✓

8c) $\frac{1}{2}\sqrt{8} + \frac{3}{5}\sqrt{50} - \frac{2}{3}\sqrt{18}$

$= \frac{1}{2}(\sqrt{2^2})\cdot(\sqrt{2}) + \frac{3}{5}\sqrt{5\times 5\times 2} - \frac{2}{3}\sqrt{2\times 3\times 3}$

$= \frac{2}{2}\sqrt{2} + \frac{3}{5}\cdot(\sqrt{5^2})\cdot(\sqrt{2}) - \frac{2}{3}\sqrt{2}\cdot\sqrt{3^2}$

$= \sqrt{2} + \frac{3}{5}\cdot 5\cdot\sqrt{2} - \frac{2}{3}\cdot 3\cdot\sqrt{2}$

$= \sqrt{2} + \frac{15}{5}\sqrt{2} - \frac{6}{3}\sqrt{2}$

$= \sqrt{2} + 3\sqrt{2} - 2\sqrt{2}$

$= 2\sqrt{2}$

*See answers in the back of the textbook for the rest of the questions.