

HW07: Mid-Unit Review

Simplify, if possible, using the factor tree or the perfect square method.

1) $\sqrt{45}$

2) $\sqrt{144}$

3) $\sqrt{42}$

4) $2\sqrt{252}$

5) $-5\sqrt{196}$

6) $2\sqrt{175}$

Simplify. Remember that to multiply or divide radicals, you must multiply or divide the inside with the inside and the outside with the outside. Simplify the radicals and rationalize as needed.

7) $\sqrt{7} \cdot \sqrt{7}$

8) $6\sqrt{3} \cdot 6\sqrt{4}$

9) $\sqrt{6} \cdot \sqrt{12}$

10) $\sqrt{42} \cdot -6\sqrt{20}$

Simplify. Remember that adding is like combining like terms -- once you have the same radicand, you just add the coefficients.

11) $-3\sqrt{6} + 3\sqrt{6} - 3\sqrt{6}$

12) $2\sqrt{5} + 3\sqrt{6} - 2\sqrt{5}$

13) $-3\sqrt{54} - \sqrt{3} - 2\sqrt{27}$

14) $-2\sqrt{45} + 3\sqrt{8} - 3\sqrt{5}$

Evaluate each using the values given.

15) $(q - 9)^2 + r + q$; use $q = 15$, and $r = 10$

16) $q + (7 + p - 7) \div 2$; use $p = 2$, and $q = 6$

17) $hk - (-4 + j + j)$; use $h = -7$, $j = -7$, and $k = -13$

Simplify each expression.

18) $-6k + 7k$

19) $11v - 8v$

20) $-3(k + 9)$

21) $-3(1 - 10v)$

22) $8a + 12(a + 1)$

23) $-9 - 12(1 + 14m)$

24) $13 - 10(8 + 13a)$

25) $-14 - 10(13v - 14)$

26) $3a + 8(4a - 1)$

27) $-9(10 - 8v) + 2$

28) $2(-9p - 6) - 2p$

29) $12k + 6(3k - 11)$