

SM2-A Lesson 3-6 (Radicals and Negative Radicands)

Simplify.

1) Hint: Use the box method.

$$(\sqrt{2} - 2)(\sqrt{2} - 5)$$

2) Use the box method

$$(\sqrt{5} + 3)(\sqrt{5} - 3)$$

3) $\sqrt{100m}$

4) $\sqrt[4]{48x^2y}$

Simplify. Your answer should contain only positive exponents with no fractional exponents in the denominator.

5) $2a^2 \cdot 3a^{-\frac{1}{3}}$

6) $k^{-\frac{1}{3}} \cdot 3k^{\frac{3}{2}}$

7) $(x^2)^{\frac{4}{3}}$

8) $\left(n^{-\frac{5}{3}}\right)^{-1}$

9) Rewrite as a radical

$$(10a)^{\frac{3}{4}}$$

10) Rewrite as a power

$$\left(\sqrt[3]{4p}\right)^5$$

Simplify.

11) $\sqrt{-24n}$

12) $\sqrt{-54x}$

13) $\sqrt{-18x^2}$

14) $\sqrt{-12x}$

Factor each completely.

15) $n^2 + 7n - 30$

16) $x^2 + 2x - 8$

17) $a^2 - 5a + 4$

18) $p^2 - 12p + 32$

19) $7b^2 - b$

20) $7n^2 - 15n + 8$

21) $2x^2 - 15x + 7$

22) $7k^2 - 16k + 4$