5.7 Simplify Radicals Review

Perfect Square Numbers (#'s you can take the square root of):

Simplest Radical Form:

1) _____
2) _____
3) _____

Simplify: Find the biggest perfect square number that goes into the radicand
(radicand = _____)

1) $\sqrt{36}$ 2) $\sqrt{72}$ 3) $\sqrt{800}$ 4) $5\sqrt{18}$ 5) $-4\sqrt{48}$

Multiply: Simplify, multiply coefficients together, multiply radicals together, simplify again
(coefficient = _____)

1) $3\sqrt{12} \bullet \sqrt{6}$ 2) $3\sqrt{80} \bullet 4\sqrt{80}$ 3) $3\sqrt{25} \bullet 4\sqrt{125}$ 4) $4\sqrt{45}\left(5\sqrt{80}\right)$

Square a Radical: Square the coefficient multiple that number by the radicand

1) $\left(\sqrt{6}\right)^2$ 2) $\left(\sqrt{11}\right)^2$ 3) $\left(5\sqrt{3}\right)^2$ 4) $\left(-2\sqrt{7}\right)^2$ 5) $5\left(3\sqrt{5}\right)^2$

Divide: Simplify, take the root of the numerator and denominator, rationalize, simplify again
(rationalize = _____)

1) $\sqrt{\frac{100}{16}}$ 2) $\sqrt{\frac{9}{2}}$ 3) $\frac{15}{\sqrt{5}}$ 4) $\sqrt{\frac{5}{9}}$

Square Roots Review

1. $3\sqrt{200}$ 2. $\sqrt{25}$ 3. $\sqrt{16} \bullet \sqrt{4}$

4. $\sqrt{25} \bullet \sqrt{36}$ 5. $\sqrt{7} \bullet \sqrt{3}$ 6. $(\sqrt{12})^2$

7. $\sqrt{2} \bullet \sqrt{8}$ 8. $\sqrt{\frac{2}{5}}$ 9. $\sqrt{\frac{3}{7}}$

10. $(5\sqrt{7})^2$ 11. $5\sqrt{32}$ 12. $\sqrt{\frac{100}{144}}$

5.7 Radical Practice

Name _____
Date _____

Simplify.

G $\sqrt{12}$

I $\sqrt{50}$

O $\sqrt{45}$

E $\sqrt{600}$

S $\sqrt{98}$

A $2\sqrt{18}$

O $8\sqrt{28}$

G $-3\sqrt{1000}$

E $5\sqrt{75}$

D $-4\sqrt{490}$

Multiply.

8 $8\sqrt{3} \cdot 5\sqrt{2}$

9 $-4\sqrt{5} \cdot 9\sqrt{6}$

10 $3\sqrt{8} \cdot 2\sqrt{5}$

11 $12\sqrt{3} \cdot 5\sqrt{15}$

12 $5\sqrt{18}\left(-2\sqrt{8}\right)$

13 $2\sqrt{5} \cdot 7\sqrt{35}$

14 $-6\sqrt{32}\left(-6\sqrt{2}\right)$

Divide.

1. $\sqrt{\frac{49}{4}}$

2. $\sqrt{\frac{20}{21}}$

3. $\frac{20}{\sqrt{5}}$

4. $\sqrt{\frac{8}{3}}$

5. $\sqrt{\frac{54}{24}}$

6. $-\sqrt{\frac{60}{5}}$

7. $\frac{5}{\sqrt{2}}$

8. $\frac{4}{\sqrt{7}}$

9. $\frac{10}{\sqrt{30}}$

10. $-\frac{9}{2\sqrt{45}}$

11. $\sqrt{\frac{1}{18}}$

12. $\frac{5}{\sqrt{40}}$