

1. Multiply and simplify.

$$\sqrt{7} \sqrt{15}$$

$$\sqrt{7} \sqrt{15} = \square$$

(Simplify your answer. Type an exact answer, using radicals as needed.)

2. Multiply and simplify.

$$(9\sqrt{5})(-8\sqrt{2})$$

$$(9\sqrt{5})(-8\sqrt{2}) = \square$$

(Simplify your answer. Type an exact answer, using radicals as needed.)

3. Multiply and simplify.

$$(8\sqrt{6})(-9\sqrt{3})$$

$$(8\sqrt{6})(-9\sqrt{3}) = \square$$

(Simplify your answer. Type an exact answer, using radicals as needed.)

4. Multiply and simplify.

$$(2 - \sqrt{2})(6 + \sqrt{2})$$

$$(2 - \sqrt{2})(6 + \sqrt{2}) = \square$$

(Type an exact answer, using radicals as needed. Simplify your answer.)

5. Multiply and simplify. Assume that all variables represent nonnegative numbers.

$$(2\sqrt{3} + \sqrt{11})(\sqrt{3} - 2\sqrt{11})$$

$$(2\sqrt{3} + \sqrt{11})(\sqrt{3} - 2\sqrt{11}) = \square$$

(Type an exact answer, using radicals as needed. Simplify your answer.)

6. **Multiply and simplify.**

$$(\sqrt{7} + 7\sqrt{3})(\sqrt{2} + \sqrt{7})$$

$$(\sqrt{7} + 7\sqrt{3})(\sqrt{2} + \sqrt{7}) = \square$$

(Simplify your answer. Type an exact answer, using radicals as needed.)

7. **Multiply and simplify.**

$$(\sqrt{3} - 2\sqrt{2})^2$$

$$(\sqrt{3} - 2\sqrt{2})^2 = \square$$

(Type an exact answer, using radicals as needed. Simplify your answer.)

8. Multiply and simplify. Assume that the variable represents a nonnegative number.

$$(6 - 2\sqrt{b})^2$$

$$(6 - 2\sqrt{b})^2 = \square$$

(Simplify your answer. Type an exact answer, using radicals as needed.)

9. Multiply and simplify. Assume that all variables represent nonnegative numbers.

$$(\sqrt{3x-2} - 3)^2$$

$$(\sqrt{3x-2} - 3)^2 = \boxed{\phantom{000}}$$

(Type an exact answer, using radicals as needed. Simplify your answer.)

10. Divide and simplify.

$$\sqrt{\frac{49}{36}}$$

$$\sqrt{\frac{49}{36}} = \boxed{\phantom{00}}$$

(Type an exact answer, using radicals as needed. Simplify your answer. Do not type a decimal.)

11. Divide and simplify. Assume that all variables represent positive numbers.

$$\sqrt{\frac{27x}{4y^{10}}}$$

$$\sqrt{\frac{27x}{4y^{10}}} = \square$$

(Simplify your answer. Type an exact answer, using radicals as needed. Use integers or fractions for any numbers in the expression. Use positive exponents only.)

12. Divide and simplify. Assume that all variables represent nonnegative numbers.

$$\sqrt[3]{\frac{64x^5y^6}{125}}$$

$$\sqrt[3]{\frac{64x^5y^6}{125}} = \square$$

(Type an exact answer, using radicals as needed. Simplify your answer.)

13. Divide and simplify. Assume that all variables represent nonnegative numbers.

$$\frac{\sqrt[3]{12y^5}}{\sqrt[3]{125x^6}}$$

$$\frac{\sqrt[3]{12y^5}}{\sqrt[3]{125x^6}} = \square$$

(Type an exact answer, using radicals as needed. Simplify your answer.)

14. Simplify by rationalizing the denominator.

$$\frac{9}{\sqrt{2}}$$

$$\frac{9}{\sqrt{2}} = \square$$

(Type an exact answer, using radicals as needed. Simplify your answer.)

15. Simplify by rationalizing the denominator.

$$\sqrt{\frac{16}{5}}$$

$$\sqrt{\frac{16}{5}} = \square$$

(Type an exact answer, using radicals as needed. Simplify your answer.)

16. Rationalize the following denominator and simplify.

$$\frac{1}{\sqrt{7y}}$$

$$\frac{1}{\sqrt{7y}} = \square \text{ (Type an exact answer, using radicals as needed.)}$$

17. Simplify by rationalizing the denominator.

$$\frac{\sqrt{10a}}{\sqrt{5y}}$$

$$\frac{\sqrt{10a}}{\sqrt{5y}} = \square$$

(Type an exact answer, using radicals as needed. Simplify your answer.)

18. Simplify by rationalizing the denominator.

$$\frac{\sqrt{7}}{\sqrt{35x}}$$

$$\frac{\sqrt{7}}{\sqrt{35x}} = \square$$

(Simplify your answer. Type an exact answer, using radicals as needed. Use integers or fractions for any numbers in the expression.)

19. Simplify by rationalizing the denominator.

$$\frac{9}{\sqrt{6x}}$$

$$\frac{9}{\sqrt{6x}} = \square$$

(Type an exact answer, using radicals as needed. Simplify your answer.)

20. Simplify by rationalizing the denominator.

$$\frac{x}{\sqrt{7} - \sqrt{3}}$$

$$\frac{x}{\sqrt{7} - \sqrt{3}} = \square$$

(Simplify your answer. Type an exact answer, using radicals as needed. Use integers or fractions for any numbers in the expression.)

21. Simplify by rationalizing the denominator.

$$\frac{9y}{\sqrt{11} + \sqrt{10}}$$

$$\frac{9y}{\sqrt{11} + \sqrt{10}} = \square$$

(Simplify your answer. Type an exact answer, using radicals as needed. Use integers or fractions for any numbers in the expression.)

22. Simplify by rationalizing the denominator.

$$\frac{\sqrt{13} + \sqrt{5}}{\sqrt{13} - \sqrt{5}}$$

$$\frac{\sqrt{13} + \sqrt{5}}{\sqrt{13} - \sqrt{5}} = \square$$

(Simplify your answer. Type an exact answer, using radicals as needed. Use integers or fractions for any numbers in the expression.)

Student: [REDACTED]

Date: 3/2/18

Time: 4:38 PM

Course: MATH110-ALGEBRA  
Book: Tobey: Beginning and Intermediate  
Algebra, 4e

23. The cost of fertilizing a lawn is \$0.25 per square foot. Find the cost to fertilize the triangular lawn whose base is  $(6 + \sqrt{11})$  feet and altitude is  $\sqrt{44}$  feet.

The cost to fertilize the triangular lawn is approximately \$.

(Round to the nearest cent as needed.)

Student: Tierra Perry

Date: 3/2/15

Time: 4:35 PM

Instructor: Jimmy Mopecha, Peggy Eaton Assignment: Week 8: Homework

Course: MATH110 A009 Win 15

Book: Tobey: Beginning and Intermediate  
Algebra, 4e

1. Simplify.

$$\sqrt{27}$$

$$\sqrt{27} = \square \text{ (Type an exact answer, using radicals as needed. Simplify your answer.)}$$

2. Simplify.

$$\sqrt{50}$$

$$\sqrt{50} = \square \text{ (Type an exact answer, using radicals as needed. Simplify your answer.)}$$

3. Simplify.

$$\sqrt{50}$$

$$\sqrt{50} = \square \text{ (Type an exact answer, using radicals as needed. Simplify your answer.)}$$

4. Simplify.

$$\sqrt{20}$$

$$\sqrt{20} = \square \text{ (Type an exact answer, using radicals as needed. Simplify your answer.)}$$

5. Simplify. Assume that all variables are nonnegative real numbers.

$$\sqrt{4x^3}$$

$$\sqrt{4x^3} = \square$$

(Simplify your answer. Type an exact answer, using radicals as needed.)

6. Simplify. Assume that all variables are nonnegative real numbers.

$$\sqrt{96a^4b^5}$$

$$\sqrt{96a^4b^5} = \square$$

(Simplify your answer. Type an exact answer, using radicals as needed.)

7. Simplify the expression. Assume that all variables are nonnegative real numbers.

$$\sqrt{40x^7yz^4}$$

$$\sqrt{40x^7yz^4} = \square$$

(Simplify your answer. Use positive exponents only. Type an exact answer, using radicals as needed.)

8. Simplify the given expression.

$$8\sqrt{5} + 2\sqrt{5}$$

$$8\sqrt{5} + 2\sqrt{5} = \square \text{ (Type an exact answer, using radicals as needed.)}$$

9. Combine.

$$4\sqrt{3} + \sqrt{5} - 9\sqrt{5}$$

$$4\sqrt{3} + \sqrt{5} - 9\sqrt{5} = \square$$

(Type an exact answer, using radicals as needed. Simplify your answer. Do not factor.)

10. Combine.

$$6\sqrt{27} - \sqrt{3}$$

$$6\sqrt{27} - \sqrt{3} = \square$$

(Simplify your answer. Type an exact answer, using radicals as needed.)

11. Combine.

$$5\sqrt{108} + \sqrt{12}$$

$$5\sqrt{108} + \sqrt{12} = \square$$

(Type an exact answer, using radicals as needed. Simplify your answer.)

12. Combine.

$$\sqrt{32} + \sqrt{50} - 2\sqrt{72}$$

$$\sqrt{32} + \sqrt{50} - 2\sqrt{72} = \square$$

(Type an exact answer, using radicals as needed. Simplify your answer.)



13. Combine.

$$\sqrt{98} - 4\sqrt{72} + \sqrt{50}$$

$$\sqrt{98} - 4\sqrt{72} + \sqrt{50} = \square$$

(Simplify your answer. Type an exact answer, using radicals as needed.)

14. Combine.

$$-6\sqrt{45} + 4\sqrt{80} + 2\sqrt{5}$$

$$-6\sqrt{45} + 4\sqrt{80} + 2\sqrt{5} = \square$$

(Type an exact answer, using radicals as needed. Simplify your answer.)

15. Combine. Assume that all variables represent nonnegative real numbers.

$$5\sqrt{72x} - 2\sqrt{32x}$$

$$5\sqrt{72x} - 2\sqrt{32x} = \square$$

(Simplify your answer. Type an exact answer, using radicals as needed.)

16. Combine. Assume that all variables represent nonnegative real numbers.

$$3\sqrt{2x} + 4\sqrt{72x} + 2\sqrt{18x}$$

$$3\sqrt{2x} + 4\sqrt{72x} + 2\sqrt{18x} = \square$$

(Simplify your answer. Type an exact answer, using radicals as needed.)

17. Combine. Assume that all variables represent nonnegative real numbers.

$$\sqrt{75x} - \sqrt{128x} + \sqrt{8x}$$

$$\sqrt{75x} - \sqrt{128x} + \sqrt{8x} = \square$$

(Simplify your answer. Type an exact answer, using radicals as needed.)

Date: 3/2/15  
Time: 4:35 PM

Instructor: Jimmy Mopecha, Peggy Baron Assignments: Week 8: Homework 8  
Course: MATH110 A009 Win 15  
Book: Tobey: Beginning and Intermediate  
Algebra, 4e

18. We can approximate the amount of current in amps  $I$  (amperes) drawn by an appliance in the home using the formula  $I = \sqrt{\frac{P}{R}}$ , where  $P$  is the power measured in watts and  $R$  is the resistance measured in ohms. What is the current  $I$  if  $P = 2800$  watts and  $R = 40$  ohms?
- If  $P = 2800$  watts and  $R = 40$  ohms, the current  $I$  is approximately  amps.  
(Round answer to three decimal places.)
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