Student: _____ **Date:** _____	**Instructor:** Deb Wertz **Course:** MAP102 MASTER	**Assignment:** Homework #24

1. Find the square root.

$\sqrt{121}$

Select the correct choice below and, if necessary, fill in the answer box within your choice.

- **A.** The square root is _____.
- **B.** The square root is not a real number.

2. Simplify.

$-\sqrt{\frac{1}{81}}$

Select the correct choice below and, if necessary, fill in the answer box within your choice.

- **A.** $-\sqrt{\frac{1}{81}} =$ _____
- **B.** The root is not a real number.

3. Find the square root.

$-\sqrt{100}$

Select the correct choice below and, if necessary, fill in the answer box within your choice.

- **A.** The square root is a real number. $-\sqrt{100} =$ _____
- **B.** The square root is not a real number.

4. Simplify. Assume that variables represent nonnegative real numbers.

$\sqrt{x^8}$

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- **A.** $\sqrt{x^8} =$ _____
- **B.** The square root is not a real number.

5. Simplify by factoring. Assume that all variables under radicals represent nonnegative numbers.

$\sqrt{49x^6}$

Select the correct choice below and, if necessary, fill in the answer box that completes your choice.

- **A.** $\sqrt{49x^6} =$ _____
  (Type an exact answer, using radicals as needed.)
- **B.** The square root is not a real number.

6. Simplify.

$\sqrt{(-8)^2}$

Select the correct choice below and, if necessary, fill in the answer box that completes your choice.

- **A.** $\sqrt{(-8)^2} =$ _____
  (Type an exact answer, using radicals as needed.)
- **B.** The square root is not a real number.

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7. Simplify. Assume that the variable represents any real number.

$\sqrt{100x^2}$

Select the correct choice below and, if necessary, fill in the answer box within your choice.

- **A.** $\sqrt{100x^2} =$ _____
- **B.** The root does not represent a real number.

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8. Rationalize the denominator.

$\frac{\sqrt{10}}{\sqrt{7}}$

The answer is _____.

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9. Rationalize the denominator.

$\sqrt{\frac{1}{149}}$

$\sqrt{\frac{1}{149}} =$ _____ (Type an exact answer, using radicals as needed.)

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10. Rationalize the denominator. Assume that all variables represent positive real numbers.

$\sqrt{\frac{121}{x}}$

$\sqrt{\frac{121}{x}} =$ _____ (Type an exact answer, using radicals as needed.)

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11. Rationalize the denominator. Assume that all variables represent positive real numbers.

$\frac{9}{\sqrt{28x}}$

$\frac{9}{\sqrt{28x}} =$ _____ (Type an exact answer, using radicals as needed.)

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12. Rationalize the denominator of $\frac{7}{\sqrt{7x}}$. Assume that all variables represent positive real numbers.

$\frac{7}{\sqrt{7x}} =$ _____ (Type an exact answer, using radicals as needed.)

13. Rationalize the denominator.

$$\frac{5\sqrt{3}}{\sqrt{2}}$$

$\frac{5\sqrt{3}}{\sqrt{2}} =$ _____
(Type an exact answer, using radicals as needed.)

14. Rationalize the denominator.

$$\sqrt{\frac{17x}{2y}}$$

$\sqrt{\frac{17x}{2y}} =$ _____ (Type an exact answer, using radical as needed.)

15. Rationalize the denominator. Assume that all variables represent positive real numbers.

$$\sqrt{\frac{3x}{125}}$$

$\sqrt{\frac{3x}{125}} =$ _____ (Type an exact answer, using radicals as needed.)

16. Rationalize the denominator. Assume that all variables represent positive real numbers.

$$\frac{1}{\sqrt{27z}}$$

$\frac{1}{\sqrt{27z}} =$ _____ (Type an exact answer, using radicals as needed.)

17. Rationalize the denominator.

$$\frac{6}{1-\sqrt{3}}$$

$\frac{6}{1-\sqrt{3}} =$ _____
(Simplify your answer. Type an exact answer, using radicals as needed.)

18. Rationalize the denominator.

$$\frac{\sqrt{14}-\sqrt{13}}{\sqrt{14}+\sqrt{13}}$$

$\frac{\sqrt{14}-\sqrt{13}}{\sqrt{14}+\sqrt{13}} =$ _____ (Type an exact answer, using radicals as needed.)

1. A. The square root is **11**.

2. A. $-\sqrt{\frac{1}{81}}$ = $\mathbf{-\frac{1}{9}}$

3. A. The square root is a real number. $-\sqrt{100}$ = **-10**

4. A. $\sqrt{x^8}$ = **x^4**

5. A. $\sqrt{49x^6}$ = **$7x^3$** (Type an exact answer, using radicals as needed.)

6. A. $\sqrt{(-8)^2}$ = **8** (Type an exact answer, using radicals as needed.)

7. A. $\sqrt{100x^2}$ = **$10|x|$**

8. $\frac{\sqrt{70}}{7}$

9. $\frac{\sqrt{149}}{149}$

10. $\frac{11\sqrt{x}}{x}$

11. $\frac{9\sqrt{7x}}{14x}$

12. $\frac{\sqrt{7x}}{x}$

13. $\frac{5\sqrt{6}}{2}$

14. $\frac{\sqrt{34xy}}{2y}$

15. $\frac{\sqrt{15x}}{25}$

16. $\frac{\sqrt{3z}}{9z}$

17. $-3\left(1+\sqrt{3}\right)$

18. $27-2\sqrt{182}$