LESSON PRACTICE

Simplify each expression.

1. $25^2 =$

2. $2^3 =$

3. $(-9)^2 =$

4. $(7)^3 =$

5. $(-17)^2 =$

6. $-\sqrt{81} =$

7. $5^3 \cdot 5^6 =$

8. $6^4 \cdot 6^2 =$

9. $18^{13} \div 18^{9} =$

10. $4^{8} \cdot 4^{5} =$

11. $(4^{2}) =$

12. $C^{1} C^{2} C^{3} =$

13. $F^{3} F^{4} E^{5} F^{2} =$

14. $B^{6} C^{1} C^{3} B^{7} =$

15. $Y^{10} \cdot Y^{5} \div Y^{3} =$

16. $A^{8X} \div A^{3X} =$

Simplify each expression.

1. $14^2 =$

2. $\sqrt{121} =$

3. $(-9)^2 =$

4. $-\sqrt{49} =$

5. $3^3 \cdot 3^3 =$

6. $5^2 \cdot 5^6 =$

7. $6^5 \div 6^2 =$

8. $4^5 \cdot 4^2 =$

9. $A^5A^2B^4B^1 =$

10. $B^Y \cdot B^{2Y} =$

11. $A^5 \div A^1 =$

12. $X^5 \cdot X^2 \div X^7 =$

13. When you multiply two numbers with the same base, you _____ the exponents.

14. When you divide two numbers with the same base, you _____ the exponents.

For #15–16 Find three consecutive integers such that five times the third, minus two times the first, is the same as four times the second, minus forty.

15. Write the equation using unknowns.

16. Solve the equation to find the integers.

17. Twenty nickels and dimes have a value of $1.60. How many are there of each coin?

18. Write $6X + 3Y = 10$ in the slope-intercept form.

For #19–20 A nursery has a two-foot sapling and a four-foot sapling. The two-foot sapling will grow at a rate of three feet a year, but the four-foot sapling will grow at only one foot a year. In how many years will the saplings be the same height? How tall will they be then?

19. Write two equations using X for the number of years and Y for the height of the saplings.

20. Use substitution or elimination to solve for X and Y and answer the questions.

SYSTEMATIC REVIEW

Simplify each expression.

1. $-13^2 =$

2. $-\sqrt{144} =$

3. $(-15)^2 =$

4. $\sqrt{100} =$

5. $7^3 \cdot 7^4 \cdot 7 =$

6. $2^8 \cdot 2^3 \cdot 2^2 =$

7. $X^2 \cdot X^9 =$

8. $A^4A^5 B^2 =$

9. $8^5 \div 8^3 =$

10. $10^5 \div 10 =$

11. $X^{10} \div X^4 =$

12. $X^{4Y} \cdot X^{3Y} \div X^Y =$

13. When you _____ two numbers with the same base, you subtract the exponents.

14. When you _____ two numbers with the same base, you add the exponents.

For #15–16 Find three consecutive odd integers such that four times the second, plus three times the third, is the same as eight times the first, minus eleven.

15. Write the equation using unknowns.

16. Solve the equation to find the integers.

17. Seven quarters and dimes have a value of $1.60. How many are there of each coin?

For #18–20 A craftsman has orders for special Christmas ornaments. He already has 30 finished and can make 37 a week.

18. Write an equation with X as the number of weeks and Y for the total number of ornaments needed.

19. If he needs a total of 215 ornaments, how many weeks must he work?

20. With new orders, the craftsman must now make 326 ornaments. How many weeks will it take to finish?