

LESSON PRACTICE

Find the square root and check.

1. $\sqrt{x^2 + 4x + 4}$

2. $\sqrt{x^2 + 6x + 9}$

3. $\sqrt{x^2 + 10x + 25}$

Divide and check.

4. $x + 3 \overline{) x^2 + 5x + 6}$

5. $x + 5 \overline{) x^2 + 11x + 36}$

6. $x + 3 \overline{) x^2 + 7x + 12}$

$$7. \quad X + 8 \overline{) X^2 + 10X + 16}$$

$$8. \quad X + 3 \overline{) X^2 + 10X + 21}$$

$$9. \quad X + 3 \overline{) 2X^2 + 7X + 3}$$

Challenge.

$$10. \quad X + 4 \overline{) X^3 + 9X^2 + 27X + 28}$$

$$11. \quad X + 1 \overline{) X^3 + 4X^2 + 12X + 9}$$

LESSON PRACTICE

Find the square root and check.

1. $\sqrt{x^2 + 12x + 36}$

2. $\sqrt{x^2 + 14x + 49}$

3. $\sqrt{4x^2 + 4x + 1}$

Divide and Check.

4. $x + 3 \overline{) x^2 + 10x + 21}$

5. $x + 2 \overline{) x^2 + 7x + 10}$

6. $x + 1 \overline{) x^2 + 7x + 6}$

7. $x + 3 \overline{) x^2 + 8x + 15}$

8. $x + 4 \overline{) x^2 + 9x + 20}$

9. $x - 2 \overline{) x^2 + x - 6}$

Challenge.

10. $x - 2 \overline{) x^3 - 5x^2 + 11x - 10}$

11. $x - 3 \overline{) x^3 + x^2 - 19x + 26}$

SYSTEMATIC REVIEW

Find the missing factor. Build if necessary.

1. $X + 1 \overline{) 4X^2 + 10X + 1}$

2. Check #1 by multiplication.

3. $2X + 1 \overline{) 4X^2 + 6X + 5}$

4. Check #3 by multiplication.

5. $X + 4 \overline{) X^2 + 9X + 20}$

6. Check #5 by multiplication.

Find the square's factor, or root.

7. $\sqrt{X^2 + 2X + 1} =$

8. Check #7 by multiplication.

Simplify. Write exponent solutions on one line unless otherwise directed.

9. $(X^4)^3 (Y^2)^6 (Y^2)(Y^0) =$

10. $\frac{A^5}{A^{-3}} =$

Use only positive exponents in the answer for #12.

11. $X^5 X^{-2} \div X^{-4} =$

12. $2XY^{-1} - \frac{3YY^{-2}}{X^{-1}} + 4X^{-1}Y^{-1} =$

Solve.

13. $.234 \times .21 =$

14. $540 \div .15 =$

15. $(-7)(-9) =$

16. $|4 - 8 + 1| =$

Add.

17.
$$\begin{array}{r} 6X^2 - 3X + 2 \\ + X^2 + 5X - 1 \\ \hline \end{array}$$

18.
$$\begin{array}{r} X^2 + 4X - 8 \\ + X^2 - 4X - 9 \\ \hline \end{array}$$

19. What are the factors of 97?

20. Which two operations are commutative?

SYSTEMATIC REVIEW

Find the missing factor. Build if necessary.

1. $X + 1 \overline{) 2X^2 - X + 10}$

2. Check #1 by multiplication.

3. $X + 3 \overline{) 3X^2 + 11X + 6}$

4. Check #3 by multiplication.

5. $X + 4 \overline{) 3X^2 + 10X - 9}$

6. Check #5 by multiplication.

Find the square's factor, or root.

7. $\sqrt{X^2 + 8X + 16} =$

8. Check #7 by multiplication.

Simplify. Write exponent solutions on one line unless otherwise directed.

9. $(A^5 B^7 B^3)^{-2}(A^4) =$

10. $\frac{B^4}{AB^{-2}} =$

11. $.586 \times 1.5 =$

12. $125 \div 2.5 =$

13. $(-7) - 9 =$

14. $|10 \div 2 - 8|$

Add.

$$\begin{array}{r} 15. \quad 7X^2 + 4X - 1 \\ - 2X^2 + 3X + 6 \\ \hline \end{array}$$

$$\begin{array}{r} 16. \quad X^2 + 11X + 5 \\ + X^2 - 8X - 6 \\ \hline \end{array}$$

17. What are the prime factors of 216?

18. Which two operations are associative?

19. Isaac went for a brisk 24-mile walk. Swinging his long arms, he was able to walk six miles per hour. How long did it take him to complete his journey?

20. The next day he was a mite tired. He went for the same 24-mile walk. Swinging his weary arms, he was able to walk only three miles per hour. How long did it take him to complete this journey?

SYSTEMATIC REVIEW

Find the missing factor. Build if necessary.

1. $2X + 2 \overline{2X^2 + 10X + 8}$

2. Check #1 by multiplication.

3. $X + 4 \overline{3X^2 + 10X - 8}$

4. Check #3 by multiplication.

5. $2X - 5 \overline{4X^2 - 2X - 17}$

6. Check #5 by multiplication.

Find the square's factor, or root.

7. $\sqrt{X^2 + 6X + 9} =$

8. Check #7 by multiplication.

Simplify or solve.

9. $(4)^3 = 2^?$

10. $\frac{(X^4Y^{-2})^3}{X^3Y^5X^{-1}} =$

Use only positive exponents in your answer to #12.

11. $(10)^4 = (10^1)^?$

12. $3A^2B^3A + \frac{6A^3B^3}{A^{-1}} - 7B^3A^3 =$

13. $1.68 + .045 =$

14. $49 \div .007 =$

Add.

15.
$$\begin{array}{r} 2X^2 + 4X - 6 \\ + X^2 + X - 10 \\ \hline \end{array}$$

16.
$$\begin{array}{r} 5X^2 + 11X - 3 \\ - 4X^2 - 5X + 7 \\ \hline \end{array}$$

17. What are the prime factors of 132?

18. What is the GCF of $20XY$ and $14X$?

19. Ethan went for a quick 18-mile bike ride. Pedaling doggedly, he was able to ride at a rate of nine miles per hour. How long did it take him to complete his journey?

20. The next day he walked the same 18 miles. He was able to walk only three miles per hour. How long did it take him that day?

Dividing Polynomials

Date _____ Period _____

Divide.

1) $(m^2 - 7m - 11) \div (m - 8)$

2) $(n^2 - n - 29) \div (n - 6)$

$\hookrightarrow m-8 \overline{) m^2 - 7m - 11}$

3) $(n^2 + 10n + 18) \div (n + 5)$

4) $(k^2 - 7k + 10) \div (k - 1)$

5) $(n^2 - 3n - 21) \div (n - 7)$

6) $(a^2 - 28) \div (a - 5)$

7) $(r^2 + 14r + 38) \div (r + 8)$

8) $(x^2 + 5x + 3) \div (x + 6)$

9) $(2x^2 - 17x - 38) \div (2x + 3)$

10) $(42x^2 - 33) \div (7x + 7)$

11) $(x^2 - 74) \div (x - 8)$

12) $(2p^2 + 7p - 39) \div (2p - 7)$

13) $(n^3 + 7n^2 + 14n + 3) \div (n + 2)$

14) $(p^3 - 10p^2 + 20p + 26) \div (p - 5)$

15) $(v^3 - 2v^2 - 14v - 5) \div (v + 3)$

16) $(x^3 - 13x^2 + 40x + 18) \div (x - 7)$

17) $(k^3 - 30k - 18 - 4k^2) \div (3 + k)$

18) $(-5k^2 + k^3 + 8k + 4) \div (-1 + k)$

19) $(x^3 + 5x^2 - 32x - 7) \div (x - 4)$

20) $(50k^3 + 10k^2 - 35k - 7) \div (5k - 4)$