

Practice 4-2 Exponents

Evaluate each expression.

1. m^4 , for $m = 5$ _____

2. $(5a)^3$, for $a = -1$ _____

3. $-(2p)^2$, for $p = 7$ _____

4. $-n^6$, for $n = 2$ _____

5. b^6 for, $b = -1$ _____

6. $(e - 2)^3$, for $e = 11$ _____

7. $(6 + h^2)^2$, for $h = 3$ _____

8. $x^2 + 3x - 7$, for $x = -4$ _____

9. $y^3 - 2y^2 + 3y - 4$, for $y = 5$ _____

Write using exponents.

10. $3 \cdot 3 \cdot 3 \cdot 3$ _____

11. $k \cdot k \cdot k \cdot k \cdot k$ _____

12. $(-9)(-9)(-9)m \cdot m \cdot m$ _____

13. $g \cdot g \cdot g \cdot g \cdot h$ _____

14. $7 \cdot a \cdot a \cdot b \cdot b \cdot b$ _____

15. $-8 \cdot m \cdot n \cdot n \cdot 2 \cdot m \cdot m$ _____

16. $d \cdot (-3) \cdot e \cdot e \cdot d \cdot (-3) \cdot e$ _____

Simplify each expression.

17. $(-2)^3$ and -2^3 _____

18. 0^{12} _____

19. 2^8 and 4^4 _____

20. $-5^2 + 4 \cdot 2^3$ _____

21. $3(8 - 6)^2$ _____

22. $-6^2 + 2 \cdot 3^2$ _____

23. $(-2)(-5)^2(3)$ _____

24. $24 + (11 - 3)^2 \div 4$ _____

25. $(17 - 3)^2 \div (4^2 - 3^2)$ _____

26. $(5 + 10)^2 \div 5^2$ _____

27. $4^3 \div (2^5 - 4^2)$ _____

28. $(-1)^5 \cdot (2^4 - 13)^2$ _____

Practice 4-4 Simplifying Fractions

Write in simplest form.

1. $\frac{10}{15}$ _____

2. $\frac{18}{36}$ _____

3. $\frac{27}{36}$ _____

4. $\frac{12}{15}$ _____

5. $\frac{26}{39}$ _____

6. $\frac{7b}{9b}$ _____

7. $\frac{16y^3}{20y^4}$ _____

8. $\frac{8x}{10y}$ _____

9. $\frac{6xy}{16y}$ _____

10. $\frac{24n^2}{28n}$ _____

11. $\frac{abc}{10abc}$ _____

12. $\frac{30hxy}{54kxy}$ _____

13. $\frac{mn^2}{pm^5n}$ _____

14. $\frac{5jh}{15jh^3}$ _____

15. $\frac{12h^3k}{16h^2k^2}$ _____

16. $\frac{20s^2t^3}{16st^5}$ _____

17. Monty completed 18 passes in 30 attempts. What fraction of his passes did Monty complete? Write in simplest form.

18. Five new state quarters will be issued by the United States mint this year. What fraction of the states will have quarters issued this year?

Practice 4-6 Rational Numbers

Evaluate. Write in simplest form.

1. $\frac{x}{y}$, for $x = 12$, $y = 21$ _____

2. $\frac{n}{n+p}$, for $n = 9$, $p = 6$ _____

3. $\frac{k}{k^2 + 4}$, for $k = 6$ _____

4. $\frac{x-y}{-21}$, for $x = -2$, $y = 5$ _____

5. $\frac{m}{n}$, for $m = 6$, $n = 7$ _____

6. $\frac{x(xy-8)}{60}$, for $x = 3$, $y = 9$ _____

7. Which of the following rational numbers are equal to $-\frac{17}{10}$?
 -17 , -1.7 , $-\frac{34}{20}$, 0.17 _____

8. Which of the following rational numbers are equal to $\frac{3}{5}$?
 $\frac{12}{20}$, $-\frac{3}{5}$, 0.3 , $\frac{6}{10}$ _____