

1.1 EXERCISES

HOMWORK KEY

 = **WORKED-OUT SOLUTIONS**
on p. 000 for Exs. 19, 35, and 51

 = **TAKS PRACTICE AND REASONING**
Exs. 15, 44, 45, 52, 54, 56, and 57

SKILL PRACTICE


- VOCABULARY** Identify the exponent and the base in the expression 6^{12} .
- WRITING** Describe the steps you would take to evaluate the expression n^5 when $n = 3$. Then evaluate the expression.

EXAMPLE 1

on p. 2
for Exs. 3–15

EVALUATING EXPRESSIONS Evaluate the expression.

- | | | |
|---|--|---|
| 3. $15x$ when $x = 4$ | 4. $0.4r$ when $r = 6$ | 5. $w - 8$ when $w = 20$ |
| 6. $1.6 - g$ when $g = 1.2$ | 7. $5 + m$ when $m = 7$ | 8. $0.8 + h$ when $h = 3.7$ |
| 9. $\frac{24}{f}$ when $f = 8$ | 10. $\frac{t}{5}$ when $t = 4.5$ | 11. $2.5m$ when $m = 4$ |
| 12. $\frac{1}{2}k$ when $k = \frac{2}{3}$ | 13. $y - \frac{1}{2}$ when $y = \frac{5}{6}$ | 14. $h + \frac{1}{3}$ when $h = 1\frac{1}{3}$ |

15.  **TAKS REASONING** What is the value of $2.5m$ when $m = 10$?

- (A) 0.25 (B) 2.5 (C) 12.5 (D) 25

EXAMPLE 3

on p. 3
for Exs. 16–25

WRITING POWERS Write the power in words and as a product.

- | | | | |
|----------------------------------|-----------|---------------|---------------|
| 16. 12^5 | 17. 7^3 | 18. $(3.2)^2$ | 19. $(0.3)^4$ |
| 20. $\left(\frac{1}{2}\right)^8$ | 21. n^7 | 22. y^6 | 23. t^4 |

ERROR ANALYSIS Describe and correct the error in evaluating the power.

24. $(0.4)^2 = 2(0.4) = 0.8$ 
25. $5^4 = 4 \cdot 4 \cdot 4 \cdot 4 = 1024$ 


EXAMPLE 4

on p. 4
for Exs. 26–37

EVALUATING POWERS Evaluate the power.

- | | | | |
|----------------------------------|----------------------------------|----------------------------------|----------------------------------|
| 26. 3^2 | 27. 10^2 | 28. 1^5 | 29. 11^3 |
| 30. 5^3 | 31. 3^5 | 32. 2^6 | 33. 6^4 |
| 34. $\left(\frac{1}{4}\right)^2$ | 35. $\left(\frac{3}{5}\right)^3$ | 36. $\left(\frac{2}{3}\right)^4$ | 37. $\left(\frac{1}{6}\right)^3$ |

EVALUATING EXPRESSIONS Evaluate the expression.

- | | |
|--|---|
| 38. x^2 when $x = \frac{3}{4}$ | 39. p^2 when $p = 1.1$ |
| 40. $x + y$ when $x = 11$ and $y = 6.4$ | 41. kn when $k = 9$ and $n = 4.5$ |
| 42. $w - z$ when $w = 9.5$ and $z = 2.8$ | 43. $\frac{b}{c}$ when $b = 24$ and $c = 2.5$ |
44.  **TAKS REASONING** Which expression has the greatest value when $x = 10$ and $y = 0.5$?
- (A) xy (B) $x - y$ (C) $\frac{x}{y}$ (D) $\frac{y}{x}$