1. Complete the table. (Explore Activity 1)   Hw #40   1 - 39

Exponential form	Product	Simplified product
5^1	5	5
5^2	5×5	
5^3		125
	$5 \times 5 \times 5 \times 5$	
5^5		

Use an exponent to write each expression. (Example 1)

2. $6 \times 6 \times 6$ _____

___ factors of 6

3. $10 \times 10 \times 10 \times 10 \times 10 \times 10 \times 10$ _____

4. $\frac{3}{4} \times \frac{3}{4} \times \frac{3}{4} \times \frac{3}{4} \times \frac{3}{4}$ _____

5. $\frac{7}{9} \times \frac{7}{9} \times \frac{7}{9} \times \frac{7}{9} \times \frac{7}{9} \times \frac{7}{9} \times \frac{7}{9} \times \frac{7}{9}$ _____

Find the value of each power. (Example 2)

6. 8^3 _____

7. 7^4 _____

8. 10^3 _____

9. $\left(\frac{1}{4}\right)^2$ _____

10. $\left(\frac{1}{3}\right)^3$ _____

11. $\left(\frac{6}{7}\right)^2$ _____

12. 0.8^2 _____

13. 0.5^3 _____

14. 1.1^2 _____

15. 8^0 _____

16. 12^1 _____

17. $\left(\frac{1}{2}\right)^0$ _____

18. $(13)^2$ _____

19. $\left(\frac{2}{5}\right)^2$ _____

20. 0.9^2 _____

? ESSENTIAL QUESTION CHECK-IN

21. How do you use an exponent to represent a number such as 16?

_____

_____

_____

_____

_____

9.1 Independent Practice

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Write the missing exponent.

22. $100 = 10^{\boxed{}}$

23. $8 = 2^{\boxed{}}$

24. $25 = 5^{\boxed{}}$

25. $27 = 3^{\boxed{}}$

26. $\dfrac{1}{169} = \left(\dfrac{1}{13}\right)^{\boxed{}}$

27. $14 = 14^{\boxed{}}$

28. $32 = 2^{\boxed{}}$

29. $\dfrac{64}{81} = \left(\dfrac{8}{9}\right)^{\boxed{}}$

Write the missing base.

30. $1{,}000 = \boxed{}^{3}$

31. $256 = \boxed{}^{4}$

32. $16 = \boxed{}^{4}$

33. $9 = \boxed{}^{2}$

34. $\dfrac{1}{9} = \left(\boxed{}\right)^{2}$

35. $64 = \boxed{}^{2}$

36. $\dfrac{9}{16} = \left(\boxed{}\right)^{2}$

37. $729 = \boxed{}^{3}$

For Exercises 38–42, write the answer with and without using an exponent.

38. Hadley's softball team has a phone tree in case a game is canceled. The coach calls 3 players. Then each of those players calls 3 players, and so on. How many players will be notified during the third round of calls?

_____

39. Tim is reading a book. On Monday he reads 3 pages. On each day after that, he reads 3 times the number of pages that he read on the previous day. How many pages does he read on Thursday?

_____

40. The square tile shown has a side length of 10.5 inches. What power can you write to represent the area of the tile? Find the area of the tile.

_____

41. Antonia is saving for a video game. On the first day, she saves two dollars in her piggy bank. Each day after that, she doubles the number of dollars she saved on the previous day. How many dollars does she save on the sixth day?

_____

42. A certain colony of bacteria triples in length every 10 minutes. Its length is now 1 millimeter. How long will it be in 40 minutes?

_____