

Chapter 1 Review Grade 6 Math (Numerical Expressions and Factors)**Multiple Choice**

Identify the choice that best completes the statement or answers the question.

Find the value of the power.

- _____ 1. 4^5
a. 20
b. 625
c. 1,024
d. 4,444

Evaluate the expression.

- _____ 2. $11 + 22 \div 11$
a. 13
b. 11.5
c. 12
d. 3
- _____ 3. $(11 - 9) \div 2 + 8$
a. 14.5
b. 0.2
c. 9
d. 12
- _____ 4. $8^2 - 2 \cdot 6$
a. 4
b. 84
c. 52
d. 372
- _____ 5. $(8^2 - 5) \cdot 10 - 6$
a. 8
b. 584
c. 236
d. 104

Find the GCF of the numbers using lists of factors.

- _____ 6. 8, 14
a. 56
b. 8
c. 5
d. 2
- _____ 7. What is the prime factorization of the number 60?
a. $3 \cdot 4 \cdot 5$
b. $2 \cdot 3 \cdot 5$
c. $2^2 \cdot 3 \cdot 5$
d. $2 \cdot 3^2 \cdot 5$

Write the product as a power.

- _____ 8. $2 \times 2 \times 2 \times 2 \times 2$
a. 2×5
b. 5^2
c. 2^5
d. 32

Name the word that matches the definition given.

- _____ 9. The _____ of a power is the repeated factor.
- a. power
 - b. base
 - c. exponent
 - d. perfect square
 - e. numerical expression
 - f. evaluate
- _____ 10. The _____ of a power indicates the number of times the base is used as a factor.
- a. power
 - b. base
 - c. exponent
 - d. perfect square
 - e. numerical expression
 - f. evaluate
- _____ 11. The square of a whole number
- a. power
 - b. base
 - c. exponent
 - d. perfect square
 - e. numerical expression
 - f. evaluate
- _____ 12. A product of repeated factors
- a. power
 - b. base
 - c. exponent
 - d. perfect square
 - e. numerical expression
 - f. evaluate
- _____ 13. An expression that contains only numbers and operations
- a. power
 - b. base
 - c. exponent
 - d. perfect square
 - e. numerical expression
 - f. evaluate
- _____ 14. A diagram that shows the prime factorization of a number
- a. order of operations
 - b. factor pair
 - c. prime factorization
 - d. factor tree
 - e. Venn diagram
 - f. common factors

Write the prime factorization of the number.

- _____ 15. 98
- a. $2^2 \cdot 7^2$
 - b. $2 \cdot 7$
 - c. $2 \cdot 7^2$
 - d. $2 \cdot 49$

Find the LCM of the numbers using lists of multiples.

- _____ 16. 4, 7
- a. 28
 - b. 56
 - c. 7
 - d. 11

Numeric Response**Find the value of the power.**

17. 7^3

Evaluate the expression.

18. $2^3 + (8 - 4) \div 4$

19. $2^4 + 2(10 - 4) - 3$

20. $\frac{36 \div 9 + 4}{2^2 - 2}$

Find the GCF of the numbers using lists of factors.

21. 12, 32

Find the LCM of the numbers using prime factorizations.

22. 18, 24

Find the GCF of the numbers using prime factorizations.

23. 54, 84

24. A florist is making flower arrangements with 32 roses and 40 tulips. Each arrangement must be identical. What is the greatest number of arrangements the florist can make if all of the flowers are used?


Short Answer

25. A football coach divides 42 players into equal groups for a warm up drill. Each group should have at least 5 players but no more than 8 players. What are the possible group sizes?
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26. The table shows several powers of 3. Copy and complete the table. Describe what happens to the value of the power as the exponent decreases. Use this pattern to find the value of
- 3^0
- .

Power	3^6	3^5	3^4	3^3	3^2	3^1
Value	729	243				

27. Is 8 a perfect square? Is 64 a perfect square? Explain.

28. **Error Analysis** Describe and correct the error in evaluating the expression.

	$\begin{aligned} 5 \times (9 - 6) &= 45 - 6 \\ &= 39 \end{aligned}$
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List the factor pairs of the number.

29. 56
30. An art teacher is organizing identical groups of supplies using 32 red pencils, 48 green pencils, and 24 blue pencils. What is the greatest number of groups of supplies that the teacher can make if there are no colored pencils left over? How many of each color pencil are in each group of supplies?