



Mathematics Grade 6

Ready EOG Practice 6.EE.1 (Expressions with Exponents)

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Rockingham County

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1. Study the expressions in the box.

$$2^5 \quad \square \quad 6^2$$

Which inequality symbol makes the number sentence in the box true?

- A. $>$
- B. \geq
- C. $<$
- D. $=$
2. Which expression is equivalent to $2^3 \times 20 \times 5^2$?
- A. $2^5 \times 5^3$
- B. $2^4 \times 5^3$
- C. $2^5 \times 5^4$
- D. $2^4 \times 5^4$
3. Which expression gives the expanded form of 8^5 ?
- A. $8 + 8 + 8 + 8 + 8$
- B. 8×5
- C. $8 \times 8 \times 8 \times 8 \times 8$
- D. $8 + 5$
4. Which expression has the *greatest* value?
- A. $12 - 3 \bullet 8^2$
- B. $12 - (3 \bullet 8)^2$
- C. $(12 - 3) \bullet 8^2$
- D. $(12 - 3)^2 \bullet 8$

5. Which expression has the *least* value if $r = -1$ and $t = 3$?

- A. $r + t$
- B. $r - t$
- C. $r \div t$
- D. $r \times t$

6. An expression is written in the box.

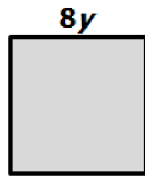
$$3x^2 + 5xy^2 + y^2$$

If $x = 4$ and $y = 2$, what is the value of the expression?

- A. 132
- B. 188
- C. 372
- D. 468
7. If $10^x = 10,000$, what is the value of x ?
- A. 1,000
- B. 100
- C. 4
- D. 3

8. What is the value of the expression $5(x \div y)^z$ when $x = 64$, $y = 16$, and $z = 3$?
- A. 8,000
B. 320
C. 60
D. 5
9. Which exponential form has a value of 8?
- A. 2^3
B. 2^4
C. 4^2
D. 4^4
10. What is the value of 5^3 ?
- A. 8
B. 15
C. 75
D. 125
11. What is 3^4 written in expanded form?
- A. 3×4
B. $4 \times 4 \times 4$
C. $3 \times 3 \times 3 \times 3$
D. 4×3
12. What is the area of a square with a side length of $4y$?
- A. $8y$
B. $8y^2$
C. $16y$
D. $16y^2$
13. Which expression represents an exponential form of 81?
- A. 3^4
B. 27^3
C. 9×9
D. $3 \times 3 \times 3 \times 3$
14. Which statement is true?
- A. $3^4 < 4^3$
B. $8^2 > 82$
C. $3^2 < 32$
D. $4^5 < 5^4$
15. What is the value of $8 + 3^3 \bullet 5$?
- A. 53
B. 85
C. 143
D. 175

16. A square is shown with side length $8y$.



Which expression represents the area of the square?

- A. $8y^2$
- B. $16y$
- C. $32y$
- D. $64y^2$
17. What is the value of $\left(\frac{1}{3}\right)^4$?
- A. $\frac{4}{3}$
- B. $\frac{4}{12}$
- C. $\frac{1}{12}$
- D. $\frac{1}{81}$

#	Answer	Objective
1.	C	Obj : 6.EE.1. Write and evaluate numerical expression...
2.	A	Obj : 6.EE.1. Write and evaluate numerical expression...
3.	C	Obj : 6.EE.1. Write and evaluate numerical expression...
4.	D	Obj : 6.EE.1. Write and evaluate numerical expression...
5.	B	Obj : 6.EE.2. Write, read, and evaluate expressions i...
6.	A	Obj : 6.EE.2. Write, read, and evaluate expressions i...
7.	C	Obj : 6.EE.1. Write and evaluate numerical expression...
8.	B	Obj : 6.EE.2. Write, read, and evaluate expressions i...

#	Answer	Objective
9.	A	Obj : 6.EE.1. Write and evaluate numerical expression...
10.	D	Obj : 6.EE.1. Write and evaluate numerical expression...
11.	C	Obj : 6.EE.1. Write and evaluate numerical expression...
12.	D	Obj : 6.EE.1. Write and evaluate numerical expression...
13.	A	Obj : 6.EE.1. Write and evaluate numerical expression...
14.	C	Obj : 6.EE.1. Write and evaluate numerical expression...
15.	C	Obj : 6.EE.1. Write and evaluate numerical expression...
16.	D	Obj : 6.EE.1. Write and evaluate numerical expression...
17.	D	Obj : 6.EE.1. Write and evaluate numerical expression...

Objectives Measured:	Items	Questions measuring this objective
Obj : 6.EE.1. Write and evaluate numerical expression...	14	1, 2, 3, 4, 7, 9, 10, 11, 12, 13, 14, 15, 16, 17
Obj : 6.EE.2. Write, read, and evaluate expressions i...	3	5, 6, 8

#	Key	Item ID
1.	C	MC 120829
2.	A	MC 122895
3.	C	MC 122897
4.	D	MC 122914
5.	B	MC 122920
6.	A	MC 122919
7.	C	MC 122958
8.	B	MC 123017

#	Key	Item ID
9.	A	MC 123045
10.	D	MC 124925
11.	C	MC 124927
12.	D	MC 140089
13.	A	MC 140131
14.	C	MC 140132
15.	C	MC 140154
16.	D	MC 140155
17.	D	MC 140180