

MA.8.A.6.3)

# Ch. 5 Exponents

FCAI Math Monday

① What is the best representation for  $4^4$ ?

- A.  $4 \times 4$
- B.  $4 \times 4 \times 4 \times 4$
- C. 44
- D. 40,000

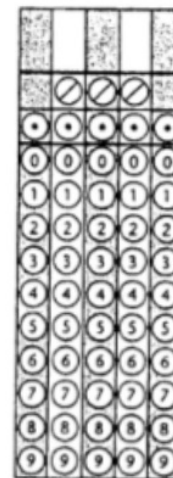
② What is the best solution for  $5^4$ ?

- A.  $\frac{4}{5}$
- B. 625
- C.  $\frac{1}{5} \times 4$
- D.  $\frac{1}{625}$

③ Which statement is true?

- A.  $2^{-4} > 2^4$
- B.  $2^{-4} < 2^4$
- C.  $2^{-4} = 2^4$
- D.  $2^4 < 2^{-4}$

⑧ Evaluate the expression  $9^3$ .  
Show your work.



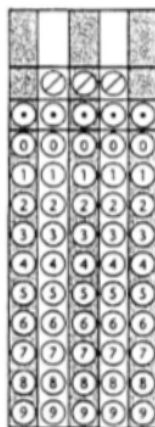
⑨ Which operation should be performed first in the expression  $84 \div 2^2 + 7 - 3$ ?

- F. exponent
- H. addition
- G. division
- I. subtraction

⑩ Evaluate  $x + (7 - 3)^2$  if  $x = -6$ .

- F. -5
- G. 4
- H. 10
- I. 22

- 4 Evaluate the expression  $2^{-2}$  and show it as a decimal. Show your work.



- 5 What is the solution for  $6^{-3}$ ?

F.  $6 \times 3$

G.  $6 \times -3$

H.  $\frac{6}{3}$

I.  $\frac{1}{(6 \times 6 \times 6)}$

- 11 Evaluate  $4(a + b)^2$  if  $a = 5$  and  $b = -2$ .

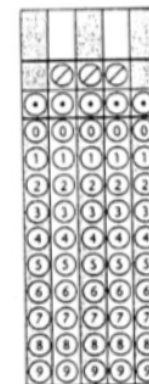
F. 12

G. 36

H. 144

I. 196

- 12 Evaluate  $(x + 2)^2 - 4$  if  $x = -8$ .



- 13 Which operation should be performed first in the expression  $-2(9 - 6)^2 + 15$ ?

A.  $-2 \times 9$

C.  $6^2$

B.  $9 - 6$

D.  $-6^2 + 15$

- 16 What is the best solution for  $3^{-4}$ ?

F.  $3 \times -4 = -12$

G.  $\frac{3}{4}$

H.  $3 \times 3 \times 3 \times 3 = 81$

I.  $\frac{1}{(3 \times 3 \times 3 \times 3)} = \frac{1}{81}$

- 14 Which operation should be performed first in the expression  $8^2 - 4 \times (4 + 3)$ ?

A.  $4 + 3$

B.  $8^2 - 4$

C.  $4 \times 3$

D.  $8^2$

- 7 Which statement is false?

F.  $4^2 = 2^4$

G.  $4^{-2} = 2^{-4}$

H.  $5^0 = 10^0$

I.  $5^1 = 10^1$

- 15 Evaluate  $y^2 - 3y + 2$  if  $y = 7$ .

A. 72

B. 44

C. 30

D. -5

- 16 Use the correct application of the order of operations to evaluate  $\frac{8 \times 3^2 - 4 \times 4}{2}$ . Show your work.

0	0	0	0
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9

- 23 Which shows the product of  $2^{-2} \times 2^6$  in exponential form?


- A.  $2^4$   
 B.  $2^{-4}$   
 C.  $2^{-8}$   
 D.  $2^{-12}$

- 17 Which shows another way to write  $6 \times 6 \times 6 \times 6 \times 6$ ?

- Ⓐ  $6^5$                       Ⓒ  $6^6$   
 Ⓑ  $5^6$                       Ⓓ  $5^5$

- 24 Which shows the quotient of  $6^{-1} \div 6^{-4}$  in exponential form?

- A.  $6^{-5}$   
 B.  $6^{-3}$   
 C.  $6^1$   
 D.  $6^3$

- 18  What is the value of this expression?

$$(3 \times 2)^3 - 26$$

0	0	0	0
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9

- 25 What is the quotient of  $9^8 \div 9^4$  in standard form?

0	0	0	0
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9

19

What is the value of  $2^{-4}$ ?

F -8

H  $\frac{1}{8}$

G -16

I  $\frac{1}{16}$

20

What is the value of  $y$  in the equation below?

$$y = (4^3 - 14) \div 5$$

A -0.4

C 10

B 1.4

D 15.6

21

Which shows this expression in simplest form?

$$\frac{5^2 \times 5^3}{5^7}$$

A  $\frac{1}{25}$

C 5

B  $\frac{1}{5}$

D 125

26

Which has the greatest value when written in standard form?

A.  $4^7$

B.  $5^6$

C.  $6^5$

D.  $7^4$

27

Which is the product of  $6^3 \times 6^4$  in exponential form?

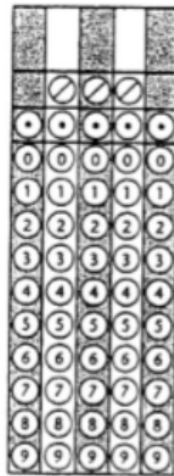
A.  $36^{12}$

B.  $7^6$

C.  $6^{12}$

D.  $6^7$

- 22 Simplify the expression  $(7^2) - (3^3)$ .  
Show your work.



- 28 Which shows  $9^{-3}$  in standard form?

- A. 729  
B. 27  
C.  $\frac{1}{27}$   
D.  $\frac{1}{729}$

- 29 Which is equivalent to  $2^{-3}$ ?

- F.  $-\frac{2}{3}$   
G.  $\frac{2^3}{10}$   
H.  $\frac{1}{8}$   
I. 8