A.APR.A.1: Multiplication of Powers 1

1 The expression $2^3 \cdot 4^2$ is equivalent to
1) 2^7
2) 2^{12}
3) 8^5
4) 8^6

2 Which expression is equivalent to $3^3 \cdot 3^4$?
1) 9^{12}
2) 9^7
3) 3^{12}
4) 3^7

3 The expression $3^2 \cdot 3^3 \cdot 3^4$ is equivalent to
1) 27^9
2) 27^{24}
3) 3^9
4) 3^{24}

4 The product of $3x^5$ and $2x^4$ is
1) $5x^9$
2) $5x^{20}$
3) $6x^9$
4) $6x^{20}$

5 The product of $2x^3$ and $6x^5$ is
1) $10x^8$
2) $12x^8$
3) $10x^{15}$
4) $12x^{15}$

6 Which expression represents $(3x^2y^4)(4xy^2)$ in simplest form?
1) $12x^2y^8$
2) $12x^2y^6$
3) $12x^3y^8$
4) $12x^3y^6$

7 The product of $4x^2y$ and $2xy^3$ is
1) $8x^2y^3$
2) $8x^3y^3$
3) $8x^3y^4$
4) $8x^2y^4$

8 The product of $6x^3y^3$ and $2x^2y$ is
1) $3xy^2$
2) $8x^5y^4$
3) $12x^5y^4$
4) $12x^6y^3$

9 The expression $(x^2z^3)(xy^2z)$ is equivalent to
1) $x^2y^2z^3$
2) $x^3y^2z^4$
3) $x^3y^3z^4$
4) $x^4y^2z^5$

1

10 The product of $3x^2 y$ and $-4xy^3$ is
1) $-12x^3 y^4$
2) $12x^3 y^4$
3) $-12x^2 y^3$
4) $12x^2 y^3$

11 What is the product of $10x^4 y^2$ and $3xy^3$?
1) $30x^4 y^5$
2) $30x^4 y^6$
3) $30x^5 y^5$
4) $30x^5 y^6$

12 What is the product of $3a^2 b$ and $-2ab^3$?
1) $a^2 b^3$
2) $a^3 b^4$
3) $-6a^2 b^3$
4) $-6a^3 b^4$

13 The expression $(-2a^2 b^3)(4ab^5)(6a^3 b^2)$ is equivalent to
1) $8a^6 b^{30}$
2) $48a^5 b^{10}$
3) $-48a^6 b^{10}$
4) $-48a^5 b^{10}$

14 What is the product of $\frac{1}{3}x^2 y$ and $\frac{1}{6}xy^3$?
1) $\frac{1}{2}x^2 y^3$
2) $\frac{1}{9}x^3 y^4$
3) $\frac{1}{18}x^2 y^3$
4) $\frac{1}{18}x^3 y^4$

15 The product of $6x^a$ and x is
1) $6x^a$
2) $6x^{a+1}$
3) $6x^{a^2}$
4) $6x^{2a}$

16 If $x = 5^a$, then the value of $5x$ is
1) $x+1$
2) 6^a
3) $a+5$
4) 5^{a+1}

17 Which equation is always true?
1) $x^2 \bullet x^3 = x^5$
2) $3^x \bullet 3^2 = 9^{2x}$
3) $-z^2 = z^2$
4) $7^a \bullet 7^b = 7^{ab}$

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Answer Section

  1 ANS: 1

$$2^3 \cdot 4^2 = 2^3 \cdot \left(2^2\right)^2 = 2^3 \cdot 2^4 = 2^7$$

      REF: 069911a

  2 ANS: 4   REF: 011020ia
  3 ANS: 3   REF: 060312a
  4 ANS: 3   REF: 010306a
  5 ANS: 2   REF: 080001a
  6 ANS: 4   REF: 080903ia
  7 ANS: 3   REF: 089906a
  8 ANS: 3   REF: 061401ia
  9 ANS: 2   REF: 010008a
10 ANS: 1   REF: 010205a
11 ANS: 3   REF: 080605a
12 ANS: 4   REF: 081401ia
13 ANS: 3   REF: 010910a
14 ANS: 4   REF: 060604a
15 ANS: 2   REF: 060328siii
16 ANS: 4   REF: 018926siii
17 ANS: 1   REF: 062403ai