



Stage Assessment 6

New

Questions Updated

1. $4^{999} \cdot 3^{666} =$

- A. 12^{999} .
- B. 12^{1665} .
- C. 24^{666} .
- D. 24^{999} .

2. $(4 \cdot 8^{n-1})^5 =$

- A. 2^{15n+5} .
- B. 2^{15n-5} .
- C. 2^{25n+5} .
- D. 2^{25n-5} .

3. $(2a^4)^{-6} =$

- A. $\frac{1}{12a^2}$.
- B. $\frac{1}{12a^{24}}$.
- C. $\frac{1}{64a^2}$.
- D. $\frac{1}{64a^{24}}$.

4. $(5x)^2 \cdot x^5 =$

- A. $5x^7$.
- B. $10x^{10}$.
- C. $25x^7$.
- D. $25x^{10}$.

5. $\frac{(4m^6)^3}{4m^5} =$

- A. $3m^4$.
- B. $3m^{13}$.
- C. $16m^4$.
- D. $16m^{13}$.

6. $\frac{16^{3n+1}}{8^{4n+1}} =$
- A. 1.
 - B. 2.
 - C. 2^n .
 - D. 2^{-n} .
7. If $8 - 3x = 5y$, then $x =$
- A. y .
 - B. $\frac{-5y + 8}{3}$.
 - C. $\frac{-5y + 24}{3}$.
 - D. $\frac{5y - 8}{3}$.
8. If $4p - 3 = 4(q + 1)$, then $q =$
- A. $p - \frac{7}{4}$.
 - B. $p + \frac{1}{4}$.
 - C. $p - 1$.
 - D. $p - 4$.
9. If $\frac{1}{ax} + \frac{1}{by} = 1$, then $x =$
- A. $\frac{by}{a(by - 1)}$.
 - B. $\frac{by}{a(by + 1)}$.
 - C. $\frac{ay}{b(ay - 1)}$.
 - D. $\frac{ay}{b(ay + 1)}$.

10. If $\frac{y+2}{a} = \frac{y-1}{b}$, then $y =$

A. $\frac{a-b}{a+2b}$.

B. $\frac{b-a}{a+2b}$.

C. $\frac{a+2b}{a-b}$.

D. $\frac{a+2b}{b-a}$.

11. If $\frac{p-2q}{p} = 2 + \frac{q}{p}$, then $q =$

A. $-3p$.

B. $3p$.

C. $-\frac{p}{3}$.

D. $\frac{p}{3}$.

12. Let a and b be constants. If $a(x-2)^2 + b(x+3)^2 \equiv x^2 + 46x + 29$, then $a =$

A. -4 .

B. -3 .

C. 2 .

D. 5 .

13. If m and n are constants such that $mx(x+4) + 2x \equiv nx(x+3) + x^2$, then $n =$

A. -6 .

B. -5 .

C. -4 .

D. -3 .

14. $6ab - 9ac - 2b^2 + 3bc =$

A. $(3a-b)(2b-3c)$.

B. $(3a-b)(2b+3c)$.

C. $(3a+b)(2b-3c)$.

D. $(3a+b)(2b+3c)$.

15. $x^2 - 16y^2 + 4x - 16y =$

- A. $(x + 4y)(x - 4y - 4)$.
- B. $(x + 4y)(x - 4y + 4)$.
- C. $(x - 4y)(x + 4y + 4)$.
- D. $(x - 4y)(x + 4y - 4)$.

16. $x^2 - xy - 2y^2 - x - y =$

- A. $(x - y)(x - 2y + 1)$.
- B. $(x - y)(x + 2y + 1)$.
- C. $(x + y)(x - 2y - 1)$.
- D. $(x + y)(x + 2y - 1)$.

17. $6x - 8y - 9x^2 + 24xy - 16y^2 =$

- A. $(3x - 4y)(2 - 3x - 4y)$.
- B. $(3x - 4y)(2 - 3x + 4y)$.
- C. $(3x - 4y)(2 + 3x - 4y)$.
- D. $(3x + 4y)(2 - 3x - 4y)$.

18. $(9x - 5y)^2 - 100 =$

- A. $(9x - 5y - 10)(9x + 5y + 10)$.
- B. $(9x - 5y - 10)(9x - 5y + 10)$.
- C. $(9x - 5y + 10)(9x + 5y + 10)$.
- D. $(9x - 5y + 10)(9x + 5y - 10)$.