

Reduce each of the following expressions to simplest form :

1. $4 \times 4 = 4^2$; $a \times a$; $c \times c \times c$; $2b \times b$.
2. $(-a) \times (-a)$; $(+a) \times (-a)$; $(+2a) \times (+a)$; $(+3b) \times (-b)$.
3. $(a^2) \times (a)$; $(ab) \times (a)$; $(a^2b) \times (a)$; $(a^2b) \times (-a)$.
4. $(a^2b) \times (b)$; $(-a^2b) \times (a)$; $(ab^2) \times (-b)$; $(abc) \times (a)$.
5. $(ab) \times (cd)$; $(2a^2b) \times (b)$; $(2a^2b) \times (-a)$; $(a^2b^2) \times (b^2)$.
6. $(ab^2c) \times (2a)$; $(2a^2) \times (-a^2)$; $(4a^2b) \times (2c)$; $(6a^2b^2) \times (ab)$.
7. $(6a^2) \times (-2a^2)$; $(4a^2b) \times (-m)$; $(3b^2c^2) \times (2a^2)$; $(-a^2) \times (a^2)$.
8. $(-2a)^2 \times (-a^2)$; $(ab) \times (ab)$; $(ab)^2 \times (ab)$; $(a^2b)^2 \times (a)$.
9. $(ab^2)^2 \times (3a)^2$; $(4a^2b^2)^2 \times (-2a)^2$; $(-3a^2b)^2 \times (-2ab^2)$.
10. $(4ab) \div (4a)$; $(8a^2b) \div (8b)$; $(6ab) \div (2a)$; $(6ab) \div (-2a)$.
11. $(8ab) \div (-4a)$; $(3ab) \div (ab)$; $(8abc) \div (4c)$; $(6ac) \div (3a)$.
12. $(a^4) \div (a^2)$; $(4a^4) \div (2a^2)$; $(6a^2b^2) \div (3a^2b)$; $(12a^2b^2) \div (ab)$.
13. $(9a^2b^2) \div (3a^2b)$; $(15a^2b^2c^2) \div (3a^2c^2)$; $(18a^2b^2) \div (-6ab^2)$.
14. $(ab) \div (cd)$; $(6a^2b) \div (ab)$; $(6ab) \div (ac)$; $(3a^2b) \div (-b)$.
15. $(8ab^2) \div (ac)$; $(9ab^2) \div (3ac^2)$; $(10ab) \div (5ac^2)$; $(6a^2b^2) \div (-a^2b^2)$.
16. $(12a^2b^2) \div (6c^2)$; $(-3a^2)^2 \div (-a^2)$; $(-18a^2b^2) \div (-a^2b^2)$; $(3b^2c) \div (4d^2)$.
17. $(4a^2b) + (2a^2b)$; $(8ab^2) + (-6ab^2)$; $(-3abc) - (-2abc)$.
18. $(8a) + (-6b)$; $(5a^2b^2) - (2a^2c)$; $(7a^2) + (-4a^2) - (2a^2)$.
19. $(4a^2b) - (-3ab^2)$; $(12ab) - (-6ab^2)$; $(7a^2) + (3a^4) - (2a^2)$.
20. $(-ab) - (-b)$; $(4ab^2) - (3a^2b)$; $(5a^2b^2) - (-5b^2)$.
21. Add : $x + y$; $2x + 2y$; $3x - y$; $-4x - 4y$.
22. Add : $3x^2 + x + y$; $x + y$; $3x^2 - 2y$; $4x + 3y$.
23. Add : $4xy^2 + 4x^2$; $3x^2 + 2x^2y$; $-2xy^2 - 6x^2y$.
24. Add : $x^2 + 4xy - y^2$; $4x^2 + 2xy + 3y^2$; $4y^2 - 6xy$.
25. Add : $8x^2y^2 - 6x^2y^2 + 3x$; $4x^2y^2 + 18$; $8x^2y^2 - 16x$.
26. From $8x^2y + 3xy^2 - 6x - 8$ take $-4xy^2 \times 8x - 9$.
27. From $6x^3 - 8y^2 + 7x^2y - 6xy^2$ take $-8x^3 - 6x^2y + y^2$.
28. From $3x^2y^4 - 4y^5$ take $-2x^4 + 3x^2y^4 - 6x^2y^2$.
29. From $4x^4 + 3y^4$ take $2x^4 - 3x^2y + 5x^2y^2 - 3xy^2 + y^4$.
30. From $\frac{x+y}{4} + \frac{x-y}{2}$ take $(2x+3y) \times \frac{1}{2}$.
31. From $x + \frac{y}{2} + 4$ take $\frac{x}{4} + y - 8$.