



Find each product.

$$1) \frac{23ab}{4} \left(2ab + 1\frac{1}{2}a^2 - \frac{9}{10}b^2 \right)$$

$$2) \frac{a^2b^2}{8} \left(a^2 - 3\frac{1}{3}ab + 4\frac{6}{7}b^2 \right)$$

$$3) \frac{y^2}{4} \left(1\frac{1}{4}x^2 - 1\frac{3}{5}xy - \frac{1}{3}y^2 \right)$$

$$4) \frac{x}{3} \left(\frac{7}{10}x^2 + 1\frac{2}{3}xy - \frac{3}{5}y^2 \right)$$

$$5) \frac{5a}{9} \left(\frac{3}{4}a^2 + 2\frac{7}{10}ab + 1\frac{1}{5}b^2 \right)$$

$$6) \frac{31n^2}{6} \left(3\frac{3}{4}m^2 + 1\frac{1}{2}mn - 1\frac{3}{4}n^2 \right)$$

$$7) \frac{4}{7} \left(-10xy + 5\frac{1}{6}x^2 + 3\frac{1}{4}y^2 \right)$$

$$8) \frac{3xy}{4} \left(\frac{1}{10}x^2 + 5\frac{3}{4}xy - \frac{1}{6}y^2 \right)$$

$$9) \frac{13x}{7} \left(3\frac{1}{9}x^2 - 1\frac{2}{9}xy + 5\frac{2}{5}y^2 \right)$$

$$10) \frac{1}{5} \left(1\frac{1}{3}m^2 + 2\frac{4}{5}mn - 3\frac{1}{2}n^2 \right)$$

$$11) \frac{80x}{9} \left(2\frac{2}{5}x^2 - 3\frac{1}{2}xy - \frac{5}{6}y^2 \right)$$

$$12) \frac{6u^4v}{5} \left(-v^2 + \frac{5}{8}u^2 - \frac{1}{2}uv \right)$$

$$13) \frac{5xy}{3} \left(-y^2 + x^2 - 2\frac{5}{6}xy \right)$$

$$14) \frac{29y}{8} \left(-5xy + 1\frac{2}{3}x^2 + 1\frac{5}{6}y^2 \right)$$

$$15) \frac{19u^2}{10} \left(2\frac{1}{2}u^2 + 1\frac{4}{5}uv + 1\frac{5}{9}v^2 \right)$$

$$16) 3\frac{2}{3} \left(\frac{1}{7}a^2 - 1\frac{3}{5}ab - 2\frac{1}{6}b^2 \right)$$

$$17) 5\frac{1}{4} \left(1\frac{7}{8}x^2 - 3\frac{5}{6}xy + 5\frac{3}{5}y^2 \right)$$

$$18) \frac{1}{2} \left(\frac{8}{9}a^2 - 3\frac{1}{2}ab - \frac{1}{3}b^2 \right)$$

$$19) \frac{7x^2}{9} \left(\frac{1}{8}x^2 - 1\frac{5}{8}xy + \frac{1}{2}y^2 \right)$$

$$20) \frac{32mn}{7} \left(2mn + 5\frac{1}{3}m^2 + 5\frac{2}{9}n^2 \right)$$

$$21) \frac{3x}{5} \left(\frac{1}{2}x^2 - \frac{5}{6}xy + \frac{1}{2}y^2 \right)$$

$$22) 2\frac{1}{3} \left(-2n^2 + 1\frac{2}{3}m^2 + 3\frac{1}{2}mn \right)$$

$$23) 5\frac{1}{2} \left(1\frac{1}{7}x^2 - \frac{1}{2}xy + 4\frac{1}{6}y^2 \right)$$

$$24) \frac{m}{2} \left(m^2 - 1\frac{2}{9}mn + 3\frac{1}{10}n^2 \right)$$

$$25) 1\frac{5}{6}\left(10\frac{9}{10}x^2 + 2\frac{7}{10}xy + \frac{1}{2}y^2\right)$$

$$26) 1\frac{4}{5}\left(5\frac{1}{9}x^2 + \frac{1}{3}xy - 1\frac{1}{8}y^2\right)$$

$$27) \frac{2}{3}\left(4\frac{1}{8}u^2 + \frac{1}{4}uv + 2\frac{7}{10}v^2\right)$$

$$28) \frac{11y}{9}\left(10y^2 + x^2 + \frac{3}{5}xy\right)$$

$$29) \frac{29u^3}{8}\left(2\frac{1}{6}u^2 - 2\frac{1}{2}uv + 1\frac{1}{4}v^2\right)$$

$$30) 2\frac{5}{6}\left(1\frac{1}{6}x^2 + 1\frac{1}{2}xy + 1\frac{3}{8}y^2\right)$$

1) $11\frac{1}{2}a^2b^2 + 8\frac{5}{8}a^3b - 5\frac{7}{40}ab^3$

2) $\frac{1}{8}a^4b^2 - \frac{5}{12}a^3b^3 + \frac{17}{28}a^2b^4$

3) $\frac{5}{16}y^2x^2 - \frac{2}{5}y^3x - \frac{1}{12}y^4$

4) $\frac{7}{30}x^3 + \frac{5}{9}x^2y - \frac{1}{5}xy^2$

5) $\frac{5}{12}a^3 + 1\frac{1}{2}a^2b + \frac{2}{3}ab^2$

6) $19\frac{3}{8}n^2m^2 + 7\frac{3}{4}n^3m - 9\frac{1}{24}n^4$

7) $-5\frac{5}{7}xy + 2\frac{20}{21}x^2 + 1\frac{6}{7}y^2$

8) $\frac{3}{40}x^3y + 4\frac{5}{16}x^2y^2 - \frac{1}{8}xy^3$

9) $5\frac{7}{9}x^3 - 2\frac{17}{63}x^2y + 10\frac{1}{35}xy^2$

10) $\frac{4}{15}m^2 + \frac{14}{25}mn - \frac{7}{10}n^2$

11) $21\frac{1}{3}x^3 - 31\frac{1}{9}x^2y - 7\frac{11}{27}y^2x$

12) $-1\frac{1}{5}u^4v^3 + \frac{3}{4}u^6v - \frac{3}{5}u^5v^2$

13) $-1\frac{2}{3}xy^3 + 1\frac{2}{3}x^3y - 4\frac{13}{18}x^2y^2$

14) $-18\frac{1}{8}y^2x + 6\frac{1}{24}yx^2 + 6\frac{31}{48}y^3$

15) $4\frac{3}{4}u^4 + 3\frac{21}{50}u^3v + 2\frac{43}{45}u^2v^2$

16) $\frac{11}{21}a^2 - 5\frac{13}{15}ab - 7\frac{17}{18}b^2$

17) $9\frac{27}{32}x^2 - 20\frac{1}{8}xy + 29\frac{2}{5}y^2$

18) $\frac{4}{9}a^2 - 1\frac{3}{4}ab - \frac{1}{6}b^2$

19) $\frac{7}{72}x^4 - 1\frac{19}{72}x^3y + \frac{7}{18}x^2y^2$

20) $9\frac{1}{7}m^2n^2 + 24\frac{8}{21}m^3n + 23\frac{55}{63}mm^3$

21) $\frac{3}{10}x^3 - \frac{1}{2}x^2y + \frac{3}{10}xy^2$

22) $-4\frac{2}{3}n^2 + 3\frac{8}{9}m^2 + 8\frac{1}{6}mn$

23) $6\frac{2}{7}x^2 - 2\frac{3}{4}xy + 22\frac{11}{12}y^2$

24) $\frac{1}{2}m^3 - \frac{11}{18}m^2n + 1\frac{11}{20}mn^2$

25) $19\frac{59}{60}x^2 + 4\frac{19}{20}xy + \frac{11}{12}y^2$

26) $9\frac{1}{5}x^2 + \frac{3}{5}xy - 2\frac{1}{40}y^2$

27) $2\frac{3}{4}u^2 + \frac{1}{6}uv + 1\frac{4}{5}v^2$

28) $12\frac{2}{9}y^3 + 1\frac{2}{9}yx^2 + \frac{11}{15}y^2x$

29) $7\frac{41}{48}u^5 - 9\frac{1}{16}u^4v + 4\frac{17}{32}u^3v^2$

30) $3\frac{11}{36}x^2 + 4\frac{1}{4}xy + 3\frac{43}{48}y^2$