



Find each product.

$$1) \left(4\frac{1}{2}x - 2\frac{9}{10}y\right)\left(-2y + 3\frac{1}{8}x\right)$$

$$2) \left(1\frac{2}{3}a - 1\frac{2}{3}b\right)\left(1\frac{1}{3}a - 1\frac{1}{2}b\right)$$

$$3) \left(9a - 2\frac{5}{6}b\right)\left(1\frac{1}{3}a - 3\frac{2}{5}b\right)$$

$$4) \left(\frac{1}{4}m + 1\frac{6}{7}n\right)\left(3\frac{2}{9}m + 2\frac{3}{7}n\right)$$

$$5) \left(x - 1\frac{2}{5}y\right)\left(1\frac{5}{8}x - \frac{3}{4}y\right)$$

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

$$7) \left( \frac{1}{10}m - \frac{3}{4}n \right) \left( m + 1\frac{1}{4}n \right)$$

$$8) \left( -2n + 5\frac{5}{6}m \right) \left( 5\frac{1}{10}m - 1\frac{1}{2}n \right)$$

$$9) \left( 1\frac{1}{4}x - 1\frac{1}{4}y \right) \left( 7x + 3\frac{3}{10}y \right)$$

$$10) \left( x - \frac{5}{9}y \right) \left( 5\frac{1}{6}x + 1\frac{6}{7}y \right)$$

$$11) \left( 2x + \frac{1}{9}y \right) \left( 1\frac{2}{9}x - 1\frac{5}{8}y \right)$$

$$12) \left( 10u - 3\frac{7}{8}v \right) \left( \frac{5}{6}u - \frac{2}{9}v \right)$$

13)  $\left(\frac{5}{7}x + 5\frac{2}{7}y\right)\left(4\frac{5}{6}x + \frac{2}{3}y\right)$

14)  $\left(\frac{1}{2}x + \frac{7}{10}y\right)\left(1\frac{7}{8}x + \frac{4}{9}y\right)$

15)  $\left(-6v + \frac{4}{5}u\right)\left(\frac{1}{2}u + 1\frac{3}{5}v\right)$

16)  $\left(9b + 4\frac{1}{2}a\right)\left(9a - 2\frac{1}{5}b\right)$

17)  $\left(1\frac{1}{7}a - 1\frac{2}{3}b\right)\left(4\frac{1}{6}a + 1\frac{1}{5}b\right)$

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

$$19) \left(1\frac{1}{2}m + 5\frac{5}{8}n\right)\left(2\frac{1}{4}m + 2\frac{1}{2}n\right)$$

$$20) \left(\frac{7}{8}x - 1\frac{1}{6}y\right)\left(2\frac{1}{8}x - 2\frac{1}{4}y\right)$$

$$21) \left(2\frac{3}{10}x + \frac{2}{3}y\right)\left(x + \frac{7}{8}y\right)$$

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

$$23) \left(2\frac{1}{6}x + 5\frac{1}{2}y\right)\left(x - 3\frac{2}{3}y\right)$$

$$24) \left(2x - \frac{2}{5}y\right)\left(4\frac{7}{8}x - \frac{1}{3}y\right)$$

$$25) \left(3\frac{7}{9}x + 1\frac{2}{7}y\right)\left(4\frac{5}{6}x - 2\frac{4}{7}y\right)$$

$$26) \left(\frac{2}{3}m + 1\frac{8}{9}n\right)\left(\frac{3}{5}m + 1\frac{7}{9}n\right)$$

$$27) \left(1\frac{3}{7}u + \frac{4}{5}v\right)\left(2\frac{1}{2}u - 1\frac{5}{9}v\right)$$

$$28) \left(\frac{4}{5}x + 1\frac{1}{4}y\right)\left(\frac{1}{3}x - 3\frac{1}{6}y\right)$$

$$29) \left(v + \frac{2}{3}u\right)\left(2\frac{1}{2}u - 2\frac{1}{2}v\right)$$

$$30) \left(1\frac{7}{10}x + 5\frac{1}{2}y\right)\left(\frac{3}{10}x + \frac{2}{3}y\right)$$

1)  $-18\frac{1}{16}xy + 14\frac{1}{16}x^2 + 5\frac{4}{5}y^2$

4)  $\frac{29}{36}m^2 + 6\frac{149}{252}mn + 4\frac{25}{49}n^2$

7)  $\frac{1}{10}m^2 - \frac{5}{8}mn - \frac{15}{16}n^2$

10)  $5\frac{1}{6}x^2 - 1\frac{5}{378}xy - 1\frac{2}{63}y^2$

13)  $3\frac{19}{42}x^2 + 26\frac{1}{42}xy + 3\frac{11}{21}y^2$

16)  $71\frac{1}{10}ba - 19\frac{4}{5}b^2 + 40\frac{1}{2}a^2$

19)  $3\frac{3}{8}m^2 + 16\frac{13}{32}mn + 14\frac{1}{16}n^2$

21)  $2\frac{3}{10}x^2 + 2\frac{163}{240}xy + \frac{7}{12}y^2$

24)  $9\frac{3}{4}x^2 - 2\frac{37}{60}xy + \frac{2}{15}y^2$

27)  $3\frac{4}{7}u^2 - \frac{2}{9}uv - 1\frac{11}{45}v^2$

30)  $\frac{51}{100}x^2 + 2\frac{47}{60}xy + 3\frac{2}{3}y^2$

2)  $2\frac{2}{9}a^2 - 4\frac{13}{18}ab + 2\frac{1}{2}b^2$

5)  $1\frac{5}{8}x^2 - 3\frac{1}{40}xy + 1\frac{1}{20}y^2$

8)  $-18\frac{19}{20}nm + 3n^2 + 29\frac{3}{4}m^2$

11)  $2\frac{4}{9}x^2 - 3\frac{37}{324}xy - \frac{13}{72}y^2$

14)  $\frac{15}{16}x^2 + 1\frac{77}{144}xy + \frac{14}{45}y^2$

17)  $4\frac{16}{21}a^2 - 5\frac{361}{630}ab - 2b^2$

20)  $1\frac{55}{64}x^2 - 4\frac{43}{96}xy + 2\frac{5}{8}y^2$

22)  $7\frac{1}{2}m^2 - 2\frac{3}{4}mn - \frac{1}{2}n^2$

25)  $18\frac{7}{27}x^2 - 3\frac{1}{2}xy - 3\frac{15}{49}y^2$

28)  $\frac{4}{15}x^2 - 2\frac{7}{60}xy - 3\frac{23}{24}y^2$

3)  $12a^2 - 34\frac{17}{45}ab + 9\frac{19}{30}b^2$

6)  $4y^2 - 12\frac{6}{7}yx + 4\frac{38}{49}x^2$

9)  $8\frac{3}{4}x^2 - 4\frac{5}{8}xy - 4\frac{1}{8}y^2$

12)  $8\frac{1}{3}u^2 - 5\frac{65}{144}uv + \frac{31}{36}v^2$

15)  $-1\frac{18}{25}vu - 9\frac{3}{5}v^2 + \frac{2}{5}u^2$

18)  $4\frac{13}{20}x^2 + 13\frac{13}{240}xy - 5\frac{3}{4}y^2$

23)  $2\frac{1}{6}x^2 - 2\frac{4}{9}xy - 20\frac{1}{6}y^2$

26)  $\frac{2}{5}m^2 + 2\frac{43}{135}mn + 3\frac{29}{81}n^2$

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