

Polynomials - two variables - fractions

Simplify each expression.

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

$$2) \left(1\frac{1}{9}xy + x^4y^3 + 5\frac{3}{10}x^4 \right) + \left(1\frac{3}{10}x^4y^3 - 3\frac{2}{9}xy - 2\frac{1}{2}x^4 \right)$$

$$3) \left(9a^3b^4 + 1\frac{2}{9}a + 2\frac{7}{10}a^2b^3 \right) - \left(6\frac{2}{7}a + 4\frac{1}{7} + 2a^2b^3 \right)$$

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

$$5) \left(1\frac{5}{8}x^2y^2 - xy^3 - 3\frac{5}{6}y^2 \right) + \left(3\frac{7}{10}y^2 - xy^3 - 3x^2y^2 \right)$$

$$6) \left(4u^3v^2 - 3\frac{1}{2}u^4 - 1\frac{6}{7}u^3 \right) + \left(4\frac{1}{8}u^4 + u^3 + 1\frac{3}{5}u^3v^2 \right)$$

$$7) \left(1\frac{2}{3}y^2 + \frac{1}{9}x^4 + 1\frac{1}{2}x^3y^3 \right) + \left(5\frac{1}{2}y^2 + 4\frac{1}{8}x^4 - 8\frac{2}{5}x^3y^3 \right)$$

$$8) \left(5\frac{1}{8}x^4y + \frac{1}{3}x^4y^4 + 3\frac{5}{8}x^4 \right) - \left(1\frac{5}{9}x^4 - 3\frac{5}{6}x^4y^4 - 9x^4y \right)$$

$$9) \left(m^2n^2 + 3\frac{1}{4} + 6m^3n^4 \right) - \left(\frac{5}{9}m^3n^4 - 2\frac{1}{6} + 3\frac{1}{4}m^2n^2 \right)$$

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

$$11) \left(1\frac{1}{4}u^4v^2 - 1\frac{2}{7}u^2v^2 - 3\frac{4}{5}uv^4 \right) + \left(\frac{1}{2}u^3v^4 - \frac{3}{4}u^4v^2 - 1\frac{7}{8}u^2v^2 \right)$$

$$12) \left(1\frac{3}{4}x^3y^4 + 5\frac{1}{2}x^2y - 4x^2y^4 \right) - \left(2\frac{1}{2}x^2y + 3\frac{1}{7}x^3y^4 + 1\frac{3}{10}x^2y^4 \right)$$

$$13) \left(3\frac{8}{9}x^4y^3 - 2\frac{1}{9}xy^2 + 2\frac{1}{6}x^3y \right) - \left(1\frac{1}{6}x^4y^4 + 5\frac{5}{9}x^4y^3 - 2\frac{1}{6}x^3y \right)$$

$$14) \left(3\frac{1}{4}a^3b^4 - \frac{2}{5} + 5\frac{4}{5}a^2b^4 \right) + \left(\frac{1}{3}a^2b^4 + 1 + 2\frac{5}{9}a^3b^4 \right)$$

$$15) \left(1\frac{1}{3}x - \frac{7}{8}x^3y^4 + 1\frac{7}{10}xy^2 \right) - \left(3\frac{1}{4}x^3y^3 + 5\frac{3}{10}x^3y^4 + 2\frac{5}{9}x \right)$$

$$16) \left(\frac{2}{3}x^2y^2 + \frac{1}{3}y + 8x^2 \right) + \left(4\frac{1}{10}x^2y^2 + 1\frac{1}{3}x^2 - \frac{1}{3}y \right)$$

$$17) \left(1\frac{9}{10}x^3y - 1\frac{1}{4}x^4y - xy^3 \right) - \left(\frac{4}{5}y + \frac{3}{4}xy^3 - \frac{1}{2}x^3y \right)$$

$$18) \left(\frac{1}{10}a^4b + a^2b^4 + \frac{5}{6}a^2b^3 \right) + \left(\frac{1}{10}a^2b^4 + 1\frac{1}{5}a^3b^2 + 2\frac{1}{5}a^4b \right)$$

$$19) \left(4\frac{1}{2}y - 2\frac{3}{4}x^3y - \frac{6}{7}xy \right) + \left(\frac{1}{3}x^3y - 1\frac{3}{8}xy + 6\frac{4}{9}y \right)$$

$$20) \left(4\frac{9}{10}x^3y^2 + 5\frac{2}{5}xy^3 + 1\frac{6}{7} \right) + \left(1\frac{3}{10} + 1\frac{3}{5}xy^3 + 1\frac{7}{10}x^3y^2 \right)$$

$$21) \left(m^2n^2 - 1\frac{1}{3}mn^3 + m^4 \right) + \left(2m^2n^2 - 3\frac{1}{2}mn^3 + 1\frac{1}{3}m \right)$$

$$22) \left(2\frac{5}{8}xy^3 + \frac{2}{3}x^2 - \frac{2}{9} \right) - \left(1\frac{5}{6}xy^3 + 1\frac{7}{8} + 1\frac{3}{4}x^2 \right)$$

$$23) \left(1\frac{1}{8}a^4b^3 + 4\frac{5}{7}ab^2 + 5\frac{2}{3}a^3b^2 \right) + \left(\frac{6}{7}a^4b^3 + 4\frac{3}{4}a^3b^2 - 3\frac{3}{10}ab^2 \right)$$

$$24) \left(1\frac{1}{3}x^4y + 8xy^2 + 4\frac{1}{9}xy \right) - \left(\frac{2}{5}x^4y + \frac{5}{6}xy^3 - 6xy \right)$$

$$25) \left(1\frac{5}{7}b^3 - \frac{4}{5}a^4b^2 - \frac{1}{7}ab^3 \right) - \left(2\frac{1}{2}b^3 - 3\frac{5}{6}ab^3 + \frac{5}{6}a^4b^2 \right)$$

$$26) \left(3\frac{4}{7}x^3y^3 + \frac{4}{9}x^3 + 1\frac{1}{5}y^3 \right) - \left(1\frac{1}{2}x^3 + 1\frac{5}{6}y^3 - 1\frac{2}{3}x^3y^3 \right)$$

$$27) \left(\frac{3}{5} + \frac{5}{9}m^2 - n^4 \right) + \left(1\frac{3}{10}n^4 - 1\frac{1}{4} + 1\frac{1}{4}n^2 \right)$$

$$28) \left(1\frac{1}{3}u^4v - 3\frac{3}{10}v + u^4v^3 \right) - \left(1\frac{1}{3}v^3 + 5\frac{3}{10}u^4v - 2v \right)$$

$$29) \left(y^4 + \frac{4}{7}x^4y^4 + \frac{1}{3}y^2 \right) - \left(4\frac{1}{5}x^3y^3 - 2\frac{8}{9}x^4y^4 + 5\frac{3}{10}y^4 \right)$$

$$30) \left(3\frac{9}{10}x^2 - \frac{4}{7}x^4y - 3\frac{2}{3}x^4y^4 \right) - \left(\frac{1}{7}x^4 - 1\frac{5}{8}x^4y + 3\frac{9}{10}x^4y^4 \right)$$

Answers to Polynomials - two variables - fractions

$$1) \frac{4}{5}u^4v^2 - 4\frac{19}{30}v^4 + 2\frac{3}{10}$$

$$2) 2\frac{3}{10}x^4y^3 + 2\frac{4}{5}x^4 - 2\frac{1}{9}xy$$

$$3) 9a^3b^4 + \frac{7}{10}a^2b^3 - 5\frac{4}{63}a - 4\frac{1}{7}$$

$$4) 3\frac{1}{6}x^3y^3 + 7\frac{1}{6}y^4 + 2\frac{1}{3}y + 3\frac{2}{3}$$

$$5) -2y^3x - 1\frac{3}{8}y^2x^2 - \frac{2}{15}y^2$$

$$6) 5\frac{3}{5}u^3v^2 + \frac{5}{8}u^4 - \frac{6}{7}u^3$$

$$7) -6\frac{9}{10}x^3y^3 + 4\frac{17}{72}x^4 + 7\frac{1}{6}y^2$$

$$8) 4\frac{1}{6}x^4y^4 + 14\frac{1}{8}x^4y + 2\frac{5}{72}x^4$$

$$9) 5\frac{4}{9}m^3n^4 - 2\frac{1}{4}m^2n^2 + 5\frac{5}{12}$$

$$10) 2\frac{4}{35}x^4y^3 + 2\frac{27}{28}x^4 - \frac{4}{5}y^4 + 2\frac{1}{3}xy^2$$

$$11) \frac{1}{2}u^3v^4 + \frac{1}{2}u^4v^2 - 3\frac{4}{5}uv^4 - 3\frac{9}{56}u^2v^2$$

$$12) -1\frac{11}{28}x^3y^4 - 5\frac{3}{10}x^2y^4 + 3x^2y$$

$$13) -1\frac{1}{6}x^4y^4 - 1\frac{2}{3}x^4y^3 + 4\frac{1}{3}x^3y - 2\frac{1}{9}xy^2$$

$$14) 5\frac{29}{36}a^3b^4 + 6\frac{2}{15}a^2b^4 + \frac{3}{5}$$

$$15) -6\frac{7}{40}x^3y^4 - 3\frac{1}{4}x^3y^3 + 1\frac{7}{10}xy^2 - 1\frac{2}{9}x$$

$$16) 4\frac{23}{30}x^2y^2 + 9\frac{1}{3}x^2$$

$$17) -1\frac{1}{4}yx^4 + 2\frac{2}{5}yx^3 - 1\frac{3}{4}y^3x - \frac{4}{5}y$$

$$18) 1\frac{1}{10}a^2b^4 + 2\frac{3}{10}a^4b + \frac{5}{6}a^2b^3 + 1\frac{1}{5}a^3b^2$$

$$19) -2\frac{5}{12}yx^3 - 2\frac{13}{56}yx + 10\frac{17}{18}y$$

$$20) 6\frac{3}{5}x^3y^2 + 7xy^3 + 3\frac{11}{70}$$

$$21) 3m^2n^2 + m^4 - 4\frac{5}{6}mn^3 + 1\frac{1}{3}m$$

$$22) \frac{19}{24}xy^3 - 1\frac{1}{12}x^2 - 2\frac{7}{72}$$

$$23) 1\frac{55}{56}a^4b^3 + 10\frac{5}{12}a^3b^2 + 1\frac{29}{70}ab^2$$

$$24) \frac{14}{15}x^4y - \frac{5}{6}xy^3 + 8xy^2 + 10\frac{1}{9}xy$$

$$25) -1\frac{19}{30}b^2a^4 + 3\frac{29}{42}b^3a - \frac{11}{14}b^3$$

$$26) 5\frac{5}{21}x^3y^3 - 1\frac{1}{18}x^3 - \frac{19}{30}y^3$$

$$27) \frac{3}{10}n^4 + \frac{5}{9}m^2 + 1\frac{1}{4}n^2 - \frac{13}{20}$$

$$28) v^3u^4 - 3\frac{29}{30}vu^4 - 1\frac{1}{3}v^3 - 1\frac{3}{10}v$$

$$29) 3\frac{29}{63}y^4x^4 - 4\frac{1}{5}y^3x^3 - 4\frac{3}{10}y^4 + \frac{1}{3}y^2$$

$$30) -7\frac{17}{30}x^4y^4 + 1\frac{3}{56}x^4y - \frac{1}{7}x^4 + 3\frac{9}{10}x^2$$