

Polynomial Review

1. Classify each polynomial by degree and by number of terms.

- a. $4y + 7$
- b. $2x^2 - 8x$
- c. $3a^3 - 3a - 1$
- d. $5w^3 - 3w^2 + w - 6$
- e. $8x$
- f. 78

2. Simplify.

- a. $(3x^2 - 6x + 9) + (4x^2 + 7x + 8)$
- b. $(2a^2 - 2a - 7) - (a^2 - 6a - 11)$
- c. $(2x + 4) + (3x - 2) - (5x + 8)$
- d. $(5x^2 - y^2) - (3x^2 + 2y^2) - (x^2 + 3y^2)$

3. Multiply.

- a. $(4x)(7x^2)$
- b. $(-6m^2n^3)(-7mn^2)$
- c. $(8r^2s^2t)(4s^3t)$

4. Simplify. Assume that no denominator equals zero.

- a. $\frac{24x^4}{6x}$
- b. $\frac{-36xy^2}{4y^2}$
- c. $\frac{-40x^3y^4z^2}{8x^3y^3}$

5. Expand.

- a. $2x(3x - 4)$
- b. $-4t(5s - t)$
- c. $-3m(m - 6)$
- d. $(4a + 3)(5a)$
- e. $(x - 3)(-4x)$

6. Expand and simplify.

- a. $2(x - 4) + 5(x + 3)$
- b. $4(2x - 7) - 5(4x + 9)$
- c. $4x + 3(2x - 5) + 6(1 - 5x)$

7. Expand.

- a. $6(3a - 4b - 9)$
- b. $-(4m^2 - m - 7)$
- c. $-5(2x^2 + 3xy - y^2)$
- d. $-6x(3x - 6y - 9)$
- e. $-a(3a + 4b - 2c)$

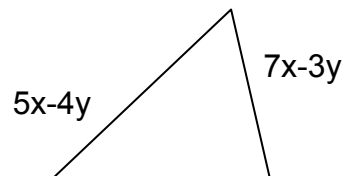
8. Expand and Simplify.

- a. $3x(x - 4) - x(x + 5) - 2x(x - 1)$
- b. $2(x^2 - 3x - 4) - 3(4x^2 - x + 5)$
- c. $3s(2s - t - 1) + 2(st + 4s + 5)$

9. Write a polynomial with the given number of terms and degree.

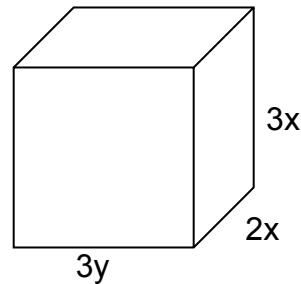
- 1 term, degree 3
- 2 terms, degree 1
- 3 terms, degree 2

10. Find the length of the third side of the triangle if $P=13x-7y$.



11. For the rectangular prism shown, write and simplify an expression that represents the:

- Volume
- Surface area.



Answers

- 1a) binomial, degree 1
- d) polynomial, degree 3
- 2a) $7x^2+x+17$
- 2d) x^2-6y^2
- 3a) $28x^3$
- 4a) $4x^3$
- 5a) $6x^2-8x$
- d) $20a^2+15a$
- 6a) $7x+7$
- 7a) $18a-24b-54$
- 7d) $-18x^2+36xy+54x$
- 8a) $-15x$
- 9 – Answers may vary
- 10) x
- 11a) $18x^2y$

- b) binomial, degree 2
- e) monomial, degree 1
- b) a^2+4a+4
- b) $42m^3n^5$
- b) $-9x$
- b) $-20st+4t^2$
- e) $-4x^2+12x$
- b) $-12x-73$
- b) $-4m^2+m+7$
- e) $-3a^2-4ab+2ac$
- b) $-10x^2-3x-23$
- a) $4x^3$ b) $9x-2$
- b) $30xy+12x^2$

- c) trinomial, degree 3
- f) monomial, degree 0
- c) -6
- c) $32r^2s^5t^2$
- c) $-5yz^2$
- c) $-3m^2+18m$
- c) $-20x-9$
- c) $-10x^2-15xy+5y^2$
- c) $6s^2-st+5s+10$
- c) $4x^2+3x-6$