MULTIPLY A POLYNOMIAL BY A MONOMIAL

➢ **Simplify**

1) $2x(x-3)$

2) $3x^2(2x^2-x)$

3) $-4ab(5a-3b)$

4) $x^n(x+1)$

5) $x^n(x^n+y^n)$

6) $x-2x(x-2)$

7) $-2y(3-y)+2y^2$

8) $4b(3b^3-12b^2-6)$

9) $(2x^2-3x-7)(-2x^2)$

10) $x^{2n}(x^{2n-2}+x^{2n}+x)$

11) $a^{n+1}(a^n-3a+2)$

12) $4a^2-2a[3-a(2-a+a^2)]$

MULTIPLY A POLYNOMIAL BY A POLYNOMIAL

➢ **Simplify**

13) $(5x-7)(3x-8)$

14) $(2x-3y)(2x+5y)$

15) $(xy+4)(xy-3)$

16) $(x^2-2y^2)(x^2+4y^2)$

17) $(x^n-4)(x^n-5)$

18) $(3x^n+b^n)(x^n+2b^n)$

19) $(x-2)(x^2-3x+7)$

20) $(2a^2-5)(3a^4-3a^2+2a-5)$

21) $(x^2-3x+1)(x^2-2x+7)$

22) $(b-3)(3b-2)(b-1)$

23) $(x^n-y^n)(x^{2n}-3x^ny^n-y^{2n})$

MULTIPLY POLYNOMIALS THAT HAVE SPECIAL PRODUCTS

- **Simplify**

24) $(a-4)(a+4)$

25) $(3x-2)(3x+2)$

26) $(x+y)^2$

27) $(5x-4y)^2$

28) $(x^2+y^2)^2$

29) $(x^2+1)(x^2-1)$

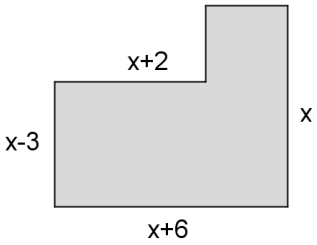
30) $(2x^n+y^n)^2$

31) $(2x^n-5)(2x^n+5)$

32) $(x^n-y^n)(x^n+y^n)$

APPLICATION

33) Find the area of the figure shown below. All dimensions given are in meters. Your answer should be in terms of the variable x.



34) Find the volume of the figure shown below. All dimensions given are in feet. Your answer should be in terms of the variable x.