The number students in a school district has been increasing 3% each year.

In 2002 the school district had 7,242 students.

In how many years will they first have over 10,000?

$100 + 3 = 103\%$

$10{,}000 = 7242(1.03)^{x}$

doing a little trial-and-error we find that when x=11 the school district first exceeds 10,000 students.

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Exponents:

V.4 multiplication rules
V.5 division rules
V.6 mult & div rules
V.7 power rule

Exponential Growth and Decay:

X.3 Exponential growth and Decay story problems.

Scientific Notation:

W.1 convert between SN and Std
W.3 Multiply #'s in SN
W.4 Divide #'s in SN

Expand this: $3x(2x - 11)$

$= (3x)(2x) - (3x)(11)$

$= 6x^2 - 33x$

Expand this: $-6w^4(-4w^3 + 7)$

Distributive Property

$-6w^4(-4w^3 + 7)$

$= +24w^7 - 42w^4$

Box Method

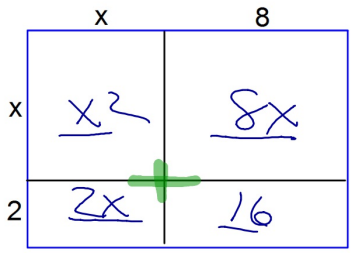
$-6w^4$	$-4w^3$	$+7$
	$+24w^7$	$-42w^4$

$= 24w^7 - 42w^4$

Expand this: $-5R^3(2R^6 + 12)$

$= -10R^9 - 60R^3$

Find the area of the blue rectangle.

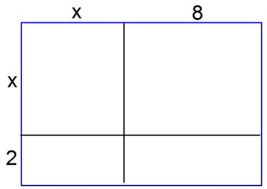


$A = x^2 + 10x + 16$

$A = x^2 + 8x + 2x + 16$

combine like terms

Find the area of the blue rectangle.



This is called the "Area Method" or "Box Method" for expanding (x+2)(x+8)

Expand this product: $(2m + 3)(m - 4)$