Plugging In Your Own Numbers (PIYON)

Whenever you see a problem with variables in the answer choices, Plug In.	in terms of; equivalent form
	messy/nasty algebra =>simple clear arithmetic
	Try 1, verify with 0 or 2; be careful the number must be in the domain
if answers are percents or fractional parts of some unknown quantity	try Plugging In: percent = 100*diff/-original
	eg total number of marbles in a jar, total miles to travel in a trip
	ratio percent =>p-lugin ==>number, 10% =>10

PLUGGING IN THE ANSWERS (PITA): answer is a number

If the average (arithmetic mean) of 8 and x is equal to the average of 5, 9, and x, what is the value of x ?

Don't try to solve problems like this by writing equations and solving for x or y. Plugging In the Answers lets you use arithmetic instead of algebra, so you're less likely to make errors.

Start from either end(greatest or least) or middle(mean)

if answer has very small/big number, try bigger/smaller first

DATA ANALYSIS

The Average Pie	[total,avg,n] When calculating averages, always find the total. It's the one piece of information that ETS loves to withhold.

DATA ANALYSIS (cont)

Median	To find the median of a set containing an even number of items, take the average of the two middle numbers after putting the numbers in order.
Mode	the number that appears the most. (Remember: Mode sounds like most.)
Range	highest-lowest
Rate pie =average	car speed, work done, average pie
Percent transl-atiom	percent: /100; of: x; what x; is are equals: =
	5 is what percent of 80? 5=x*80/100
	what percent of 5 is 80? x*5/100=80
PERCENTS increase and decrease	
	100* difference / original amt
Growth and decay	final amount = original amount $(1 \pm \text{rate})^{\text{number of changes}}$
	population growth, radioactive decay, and credit payments
RATIOS AND PROPOR TIONS	fraction=part/whole; ratio=par-t/part, part+part=100
	sometimes : fraction/ratio => decimal
	ratio box [p,p,w]*[r,m,a]: fill in known ->calc unknown
direct proportio-n/vari-ation	x1/y1=x2/y2
inverse proportio-n/vari-ation	x1y1=x2y2

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