

Challenge**Amazing Math**

Write an algebraic expression for each word phrase on the board. Evaluate each expression for $x = 2$.

Then find a path from the top row to the bottom row that gives a total of 22.

3 times x	1 less than twice x	6 more than x	x increased by 3	the quotient of twice x and 2
1 more than x	the product of 3 and x	x decreased by 1	half of x	twice x increased by 3
1 less than 3 times x	the difference between 3 and x	the difference between 2 and x	the product of 4 and x	the sum of 6 and twice x
twice x	the difference between x and 1	the sum of x and 5	1 more than half of x	the product of 4 and 3 times x
x increased by 2	the quotient of x and 2	7 increased by x	the quotient of 6 and x	5 times x divided by 2

TRANSLATING ENGLISH TERMS INTO ALGEBRAIC OPERATORS

Accumulate	+	Fraction	÷	* Quotient (of)	÷
* Add, add up, added to, addition, additional	+	Fraction of	×	Raise, raised by, rise	+
Alike	=	Gain.....	× or +	Ratio (of)	÷
Also.....	+	Gives (a result of), giving.....	=	Reciprocal (of)	÷
Altogether	+	Go (went) up	+	Reduce, reduce(d) by	-
Amounts to	=	Go (went) up by a factor of	×	Reduce(d) by a factor of	÷
Amplify, amplified by	×	Greater (than)	+	Represents.....	=
And	+	Grew by, grow by	+	Result (is), results (are), results in=	
Appreciate.....	+	Halved	÷2	Same (result) as.....	=
Are	=	Identical to.....	=	Smaller (than)	-
Area	×	In addition (to).....	+	Smaller by a factor of.....	÷
Balances.....	=	In all	+	Shorten (by), shorter (than).....	-
Bigger (than).....	+	In excess	+	Subdivide.....	÷
Coincides (with).....	=	Increased (by), increment	+	* Subtract, subtracted from	-
Combine(d).....	+	Increase(d) by a factor of.....	×	* Sum (of), summation	+
Corresponds (to)	=	Intensified by.....	×	Take away, take from.....	-
Cut (by).....	-	Interest on.....	×	Tally (up)	+
Cut by a factor of	÷	Is (equal)	=	Thrice.....	×3
Decline, declined by	-	* Less (than)	-	Times, times as much, times larger, times more, times older.....	×
Decline(d) by a factor of	÷	Larger (than).....	+	Times less, times smaller, times younger	÷
* Decrease(d) by, decrement.....	-	Lengthen (by), longer (than).....	+	Together.....	+
Decrease(d) by a factor of	÷	Lower, lowered by.....	-	Total (is)	=
Deduct, deducted from.....	-	Matches	=	Total of	+
Depreciate.....	-	Magnified by	×	Triple(d).....	×3
* Difference (of)	-	Minus	-	Twice	×2
Diminished (by)	-	* More (than)	+	Volume	×
Diminished by a factor of.....	÷	* Multiple, multiply, multiply by..	×	Was (equal), were (equal)	=
* Divide, divided by, divided into.....	÷	Narrower (than)	-	Wider (than)	+
Double(d).....	×	Net.....	+	Will be (equal)	=
Dropped by	-	Of [usually in connection with fractions]	×	... Years older (than)	+
Dropped by a factor of	÷	Older (than)	+	Yields.....	=
Dwindle	-	On top of	+		
Equal, equals.....	=	Per	×		
Equivalent (to)	=	Percent (of).....	×		
Exceeds (by)	+	Perimeter	+		
Factors	×	Plus.....	+		
Fall.....	-	* Product (of)	×		
Farther.....	+	Quadruple(d)	×4		
Fewer than	-	Quarter	÷4		
Find the total.....	+	Quantity..... (....)			

** THAN and FROM mean to
translate BACKWARDS! **