

Accelerated Math Chapter 7
Algebraic Expressions

Prove that these "Math Magic" problems ALWAYS work

**Create the algebraic expression that represents each sequence of commands.

**Simplify your algebraic expression

Let n = the number

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Math Magic

10
40
32
8
10

Choose any number n
Multiply by 4 $4n$
Subtract 8 $4n - 8$
Divide by 4 $\frac{4n-8}{4} = \frac{4(n-2)}{4} = n-2$
Add 2 $n-2+2 = n$

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Math Magic

10
20
25
125
100
10

Choose any number n
Multiply by 2 $2n$
Add 5 $2n+5$
Multiply by 5 $5(2n+5) = 10n+25$
Subtract 25 $10n+25-25 = 10n$
Divide by 10 $\frac{10n}{10}$

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n

Math Magic

10
30
38
48
12
2

Choose any number n
Multiply by 3 $3n$
Add 8 $3n+8$
Add your original number choice $3n+8+n = 4n+8$
Divide by 4 $\frac{4n+8}{4} = \frac{4(n+2)}{4} = n+2$
Subtract your original number choice $n+2-n$

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2

Math Magic

10

Choose any number n

21

Add the number one larger than your original number choice $n + (n+1) = 2n+1$

32

Add 11 $2n+1 + 11 = 2n+12$

16

Divide by 2 $\frac{2n+12}{2} = \frac{2(n+6)}{2}$

6

Subtract your original number choice

$$n+6 - n$$

(6)