Kumon Math Challenge – Sample Questions
Grade 9

Solve for *x*.

1. $-\frac{3}{4}x+\frac{1}{6}=-\frac{1}{3}x+2$

A. $x=-\frac{16}{5}$

B. $x=-\frac{22}{5}$

C. $x=\frac{12}{5}$

D. $x=\frac{23}{4}$

Simplify the following.

2. $3x^5\times 9x^{-5}\div 6x^{-1}=$

A. $\frac{9x}{2}$

B. $\frac{3x}{2}$

C. $\frac{9x}{4}$

D. $\frac{5x}{6}$

3. Find the vertex of the parabola: $y=-6x^2+12x+10$

A. $(-1,16)$

B. $(1,-8)$

C. $(0,10)$

D. $(1,16)$

Factor the following

4. $(x+y)^2-5(x+y)-14=$

A. $(x+y-7)(x+2y+2)$

B. $(x+y-7)(x+y+2)$

C. $(x+y+7)(x-y-2)$

D. $(x+y-2)(x+y+7)$

5. A telephone exchange is represented by the first 3 digits of a phone number, for example 394 - . How many different phone numbers can be created in a single telephone exchange if four numbers must follow the telephone exchange?

A. 100,000 phone numbers

B. 110,000 phone numbers

C. 10,000 phone numbers

D. 50,000 phone numbers

Simplify the following equation.

6. $(5\log_8 3)(\log_8 2)(\log_3 8)=$

A. $5\log_8 48$

B. $\frac{5}{3}$

C. $5\log_{24} 48$

D. 5