Order of Operations Practice

Name: _____ Date: _____

Question 1

Solve

I. $8 \div 4 + 3\{9 + 2(3 - 5)^3\} =$

II. $-15 \div 3 \cdot (6 - 4)^3 =$

III. $\dfrac{12(9 - 7) + 4 \cdot 5}{2^4 + 3^2} =$

IV. $\dfrac{-3^3 - 2 \cdot 3^2}{8 \div 2^2 - (6 - |2 - 15|)} =$

Order of Operations Practice

Question 2

Evaluate

I. $9 - 4x$ $x = 36$

II. $50 \div 2 \cdot x$ $x = 5$

III. $5 \cdot x \div 15 \cdot x^2$ $x = 3$

IV. $(-x)^2 - 5x$ $x = -3$

V. $\frac{3x - 4x^2}{x^2 - 20}$ $x = 5$

Order of Operations Practice

Name: **Key** Date: _____

Question 1

Solve

I. $8 \div 4 + 3\{9 + 2(3 - 5)^3\} = -19$

$8 \div 4 + 3\{9 + 2(-2)^3\} \longrightarrow 8 \div 4 + 3\{9 + 2 \cdot -8\} \longrightarrow 8 \div 4 + 3\{9 + -16\} \longrightarrow 8 \div 4 + 3 \cdot -7$

$\downarrow$

$-19 \longleftarrow 2 + -21 \longleftarrow 2 + 3 \cdot -7$

II. $-15 \div 3 \cdot (6 - 4)^3 = -40$

$-15 \div 3 \cdot (2)^3 \longrightarrow -15 \div 3 \cdot 8 \longrightarrow -5 \cdot 8 \longrightarrow -40$

III. $\dfrac{12(9 - 7) + 4 \cdot 5}{2^4 + 3^2} = \dfrac{44}{25}$

$\dfrac{12(9 - 7) + 4 \cdot 5}{16 + 3^2} \longrightarrow \dfrac{12(9 - 7) + 4 \cdot 5}{16 + 9} \longrightarrow \dfrac{12(9 - 7) + 4 \cdot 5}{25} \longrightarrow \dfrac{12 \cdot 2 + 4 \cdot 5}{25}$

$\downarrow$

$\dfrac{44}{25} \longleftarrow \dfrac{24 + 20}{25} \longleftarrow \dfrac{24 + 4 \cdot 5}{25}$

IV. $\dfrac{-3^3 - 2 \cdot 3^2}{8 \div 2^2 - (6 - |2 - 15|)} = -5$

$\dfrac{-3^3 - 2 \cdot 3^2}{8 \div 2^2 - (6 - |-13|)} \longrightarrow \dfrac{-3^3 - 2 \cdot 3^2}{8 \div 2^2 - (6 - 13)}$

$\downarrow$

$\dfrac{-3^3 - 2 \cdot 3^2}{9} \longleftarrow \dfrac{-3^3 - 2 \cdot 3^2}{2 - -7} \longleftarrow \dfrac{-3^3 - 2 \cdot 3^2}{8 \div 4 - -7} \longleftarrow \dfrac{-3^3 - 2 \cdot 3^2}{8 \div 2^2 - -7}$

$\downarrow$

$\dfrac{-27 - 2 \cdot 3^2}{9} \longrightarrow \dfrac{-27 - 2 \cdot 9}{9} \longrightarrow \dfrac{-27 - 18}{9} \longrightarrow \dfrac{-45}{9} \longrightarrow -5$

Order of Operations Practice

Question 2

Evaluate

I. $9 - 4x$ $\quad x = 36$

$9 - 4(36) \longrightarrow 9 - 144 \longrightarrow -135$

II. $50 \div 2 \cdot x$ $\quad x = 5$

$50 \div 2 \cdot 5 \longrightarrow 25 \cdot 5 \longrightarrow 125$

III. $5 \cdot x \div 15 \cdot x^2$ $\quad x = 3$

$5 \cdot (3) \div 15 \cdot (3)^2 \longrightarrow 5 \cdot (3) \div 15 \cdot (9) \longrightarrow 15 \div 15 \cdot (9) \longrightarrow 1 \cdot (9) \longrightarrow 9$

IV. $(-x)^2 - 5x$ $\quad x = -3$

$(-(-3))^2 - 5(-3) \longrightarrow (3)^2 - 5(-3) \longrightarrow 9 - 5(-3) \longrightarrow 9 - -15 \longrightarrow 24$

V. $\dfrac{3x - 4x^2}{x^2 - 20}$ $\quad x = 5$

$$\frac{3(5) - 4(5)^2}{(5)^2 - 20} \longrightarrow \frac{3(5) - 4(5)^2}{25 - 20} \longrightarrow \frac{3(5) - 4(5)^2}{5} \longrightarrow \frac{3(5) - 4(25)}{5} \longrightarrow \frac{15 - 4(25)}{5}$$

$$\frac{15 - 100}{5} \longleftarrow \frac{-85}{5} \longleftarrow -17$$