#11

Name: Key Date:

Mrs. Roumbos 8A Period

Literal Equations Day 2 Homework

1) Which of the following equations is equivalent to $2y + 5x = 16$?

a) $y = 2x + 6$ c) $y = \frac{5}{2}x + 8$

b) $y = -\frac{5}{2}x + 8$ d) $y = \frac{2}{5}x + 8$

$-5x \quad -5x$

$\frac{2y}{2} = \frac{16-5x}{2}$

$y = \frac{16-5x}{2}$ or $y = \frac{16}{2} - \frac{5x}{2}$ $y = 8 - \frac{5x}{2}$

2) The formula $A = prt + p$ gives the amount of money in a savings account due to simple interest. Which of the following formulas, gives the time, t, the money has been in the account?

a) $\frac{A-p}{pr}$ c) $\frac{A-pr}{p}$

b) $\frac{A-2p}{r}$ d) $\frac{A+p-r}{p}$

$A = prt + p$

$-p \quad -p$

$\frac{A-p}{pr} = \frac{prt}{pr}$

$t = \frac{A-p}{pr}$ $p \neq 0$ or $t \neq 0$

or $t = \frac{A}{pr} - \frac{p}{pr}$ $t = \frac{A}{pr} - \frac{1}{r}$

3) The distance a free falling object has traveled can be modeled by the equation $d = \frac{1}{2}at^2$, where a is acceleration due to gravity and t is the amount of time the object has fallen. What is the t in terms of a and d?

a) $t = \sqrt{\frac{da}{2}}$ c) $t = \left(\frac{da}{d}\right)^2$

b) $t = \left(\frac{2d}{a}\right)^2$ d) $t = \sqrt{\frac{2d}{a}}$

$\frac{2}{1}(d) = \left(\frac{1}{2}at\right)^2\frac{2}{1}$

$\frac{2d}{a} = \frac{at^2}{a}$

$\sqrt{t^2} = \sqrt{\frac{2d}{a}}$

$t = \sqrt{\frac{2d}{a}}$ $a \neq 0$

4) The formulas for the area of a trapezoid is $A = \frac{1}{2}h(b_1 + b_2)$ Express b_1 in terms of A, h, and b_2.

$\frac{2}{1}(A) = \left(\frac{1}{2}h(b_1 + b_2)\right)\frac{2}{1}$

$\frac{2A}{h} = \frac{h(b_1 + b_2)}{h}$

$\frac{2A}{h} = b_1 + b_2$

$-b_2 \quad -b_2$

$b_1 = \frac{2A}{h} - b_2$ $h \neq 0$

5) What is the value of x if $5a - 3x = 2b + 4x$

a) $\frac{5a-2b}{7}$ c) $\frac{2b-5a}{7}$

b) $\frac{5a+2b}{-7}$ d) $\frac{5a+2b}{7}$

$5a - 3x = 2b + 4x$

$+3x \quad +3x$

$5a = 2b + 7x$

$-2b \quad -2b$

$\frac{5a-2b}{7} = \frac{7x}{7}$

$x = \frac{5a-2b}{7}$

6) If $7x + 2a = 3x + 5a$, then x is equal to

a) $\frac{7a}{10}$ c) $\frac{3a}{4}$

b) $\frac{7a}{4}$ d) $\frac{3a}{10}$

$7x+2a=3x+5a$

$-3x \quad -3x$

$4x+2a=5a$

$-2a \quad -2a$

$\frac{4x}{4}=\frac{3a}{4}$

$x=\frac{3a}{4}$

7) Solve $5x - 8w = 9z$ for x.

a) $\frac{8w-9z}{5}$ c) $\frac{9z+8w}{5}$

b) $\frac{9z-8w}{5}$ d) $\frac{9z+8w}{-5}$

$5x-8w=9z$

$+8w \quad +8w$

$\frac{5x}{5}=\frac{9z+8w}{5}$

$x=\frac{9z+8w}{5}$

8) If $\frac{x}{4}-\frac{a}{b}=0$, $b\neq 0$, then x is equal to

a) $\frac{a}{4b}$ c) $-\frac{4a}{b}$

b) $\frac{4a}{b}$ d) $-\frac{a}{4b}$

$\frac{x}{4}-\frac{a}{b}=0$

$+\frac{a}{b} \quad +\frac{a}{b}$

$4\left(\frac{x}{4}\right)=\left(\frac{a}{b}\right)4$

$x=\frac{4a}{b}$

9) Solve for d: $s = a + (n - 1)d$

$-a \quad -a$

$s-a=(n-1)d$

$\frac{s-a}{n-1}=\frac{(n-1)d}{n-1}$

$d=\frac{s-a}{n-1}$

$n\neq 1$

10) Solve for y: $ax + by = c$

$-ax \quad -ax$

$\frac{by}{b}=\frac{c-ax}{b}$

$y=\frac{c-ax}{b}$ $b\neq 0$

11) Solve for s: $V = 27s^3$

$\frac{V}{27}=\frac{27s^3}{27}$

$\sqrt[3]{s^3}=\sqrt[3]{\frac{V}{27}}$

$s=\sqrt[3]{\frac{V}{27}}$

$s=\frac{\sqrt[3]{V}}{\sqrt[3]{27}}$

$s=\frac{\sqrt[3]{V}}{3}$

12) The volume of a large can of tuna fish can be calculated using the formula $V = \pi r^2 h$ Write an equation to find the radius, r, in terms of V and h.

$\frac{V}{\pi h}=\frac{\pi r^2 h}{\pi h}$

$\sqrt{r^2}=\sqrt{\frac{V}{\pi h}}$

$r=\sqrt{\frac{V}{\pi h}}$ $h\neq 0$