2.5 Rearranging Formulas

PRACTICE

Directions: Pick the best solution that solves each equation for the indicated variable.

1) $\frac{c}{a} = rd, for\ a$

a) $a = \frac{c}{rd}$
b) $a = -crd$
c) $a = c + rd$
d) $a = c - rd$

$c\left(\frac{c}{a}\right) = rd(a)$

$\frac{c}{rd} = \frac{rda}{rd}$

2) $g = xc - y, for\ x.$

a) $x = -cg + cy$
b) $x = \frac{g-y}{c}$
c) $x = -g - y - c$
d) $x = \frac{g+y}{c}$

$g = xc - y$
$+y \quad +y$
$g + y = xc$
$\frac{g+y}{c} = \frac{xc}{c}$
$\frac{g+y}{c} = x$

GEMDAS ✓

Directions: Solve each equation for the indicated variable.

3) $u = a + k - b, for\ a$

GEMDAS

$+b \quad +b$
$u + b = a + k$
$-k \quad -k$
$u + b - k = a$

4) $z = b - am, for\ m$

GEMDAS

$-b \quad -b$
$z - b = -am$
$-a \quad -a$
$\frac{z-b}{-a} = m$

5) $3a - c = -1, for\ a$

GEMDAS

$+c \quad +c$
$\frac{3a}{3} = \frac{c-1}{3}$
$a = \frac{c-1}{3}$

6) $g = 3x + 2, for\ x.$

GEMDAS

$-2 \quad -2$
$\frac{g-2}{3} = \frac{3x}{3}$
$\frac{g-2}{3} = x$

7) $d = rt, for\ t$

GEMDAS

$\frac{d}{r} = \frac{rt}{r}$
$\frac{d}{r} = t$

8) $z = \frac{m}{x}$ for x

GEMDAS

$x(z) = \left(\frac{m}{x}\right)x$
$\frac{zx}{z} = \frac{m}{z}$
$x = \frac{m}{z}$

9) $2x - 3y = 9, for\ y$

$-2x \quad -2x$
$\frac{-3y}{-3} = \frac{9-2x}{-3}$
$y = -3 + \frac{2}{3}x$

10) $2x - y = 10\ for\ x$

$+y \quad +y$
$\frac{2x}{2} = \frac{10+y}{2}$
$x = 5 + \frac{1}{2}y$

11) $A = \frac{1}{2}h(x+y)$, for x.

GEMDAS

$\frac{2A}{h} = \frac{h(x+y)}{h}$

$\frac{2A}{h} = x+y$

$-y \quad -y$

$\frac{2A}{h} - y = x$

12) $y - a = m(x - b)$, for x

GEMDAS

$\frac{y-a}{m} = \frac{m(x-b)}{m}$

$\frac{y-a}{m} = x-b$

$+b \quad +b$

$\frac{y-a}{m} + b = x$

Directions: Simplify each expression.

13) $(2x+6) + (6x^2+4x+8)$

$-6x^2 - 2x + 14$

14) $(2y-5)(2y+5)$

$4y^2 + 10y - 10y - 25$

$4y^2 - 25$

15) $(2x+6)(6x^2+4x-8)$

$12x^3 + 8x^2 - 16x + 36x^2 + 24x - 48$

$12x^3 + 44x^2 + 8x - 48$

16) $(2y-5) + (2y+5)$

$4y - 0$

$4y$