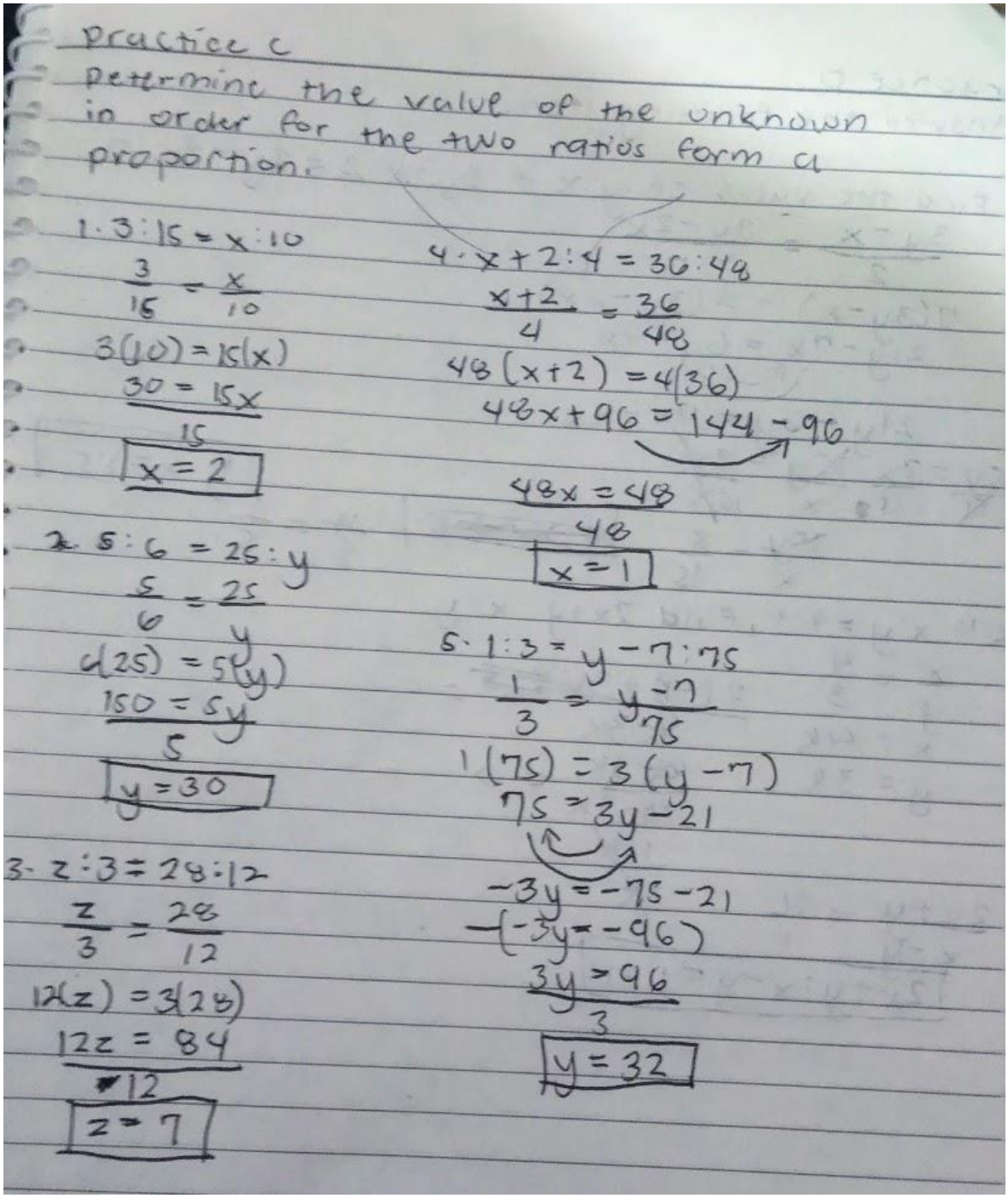
Angeles City Science High School

Mathematics 9

Name: Paul Gerald D. Pare **Section:** 9 - Adenine



Practice D

Answer the following items.

1. Find the value of $y:x$ if $3y-x:2 = 3y-2x:7$

$$\frac{3y-x}{2} = \frac{3y-2x}{7}$$

$$7(3y-x) = 2(3y-2x)$$

$$21y-7x = 6y-4x$$

$$21y-6y = 7x-4x$$

$$\frac{15y}{15} = \frac{3x}{15} \qquad \frac{15y}{x} = \frac{3}{15}$$

~~$y:x = 1:5$~~

$$\frac{y}{x} = \frac{1}{5}$$

$\boxed{y:x = 1:5}$

2. If $x:y = 4:3$, find $2x+y:x-y$

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

$x = 4k$

$y = 3k$

$$\frac{2(4k)+3k}{4k-3k} = \frac{8k+3k}{4k-3k} = \frac{11k}{1k}$$

$$\frac{2x+y}{x-y} = \frac{11}{1}$$

$\boxed{2x+y:x-y = 11:1}$

3. If $g:h = 4:3$, evaluate $4g+h : 8g+h$

$\frac{g}{h} = \frac{4}{3}$

$g = 4k$

$h = 3k$

$4g+h : 8g+h$

$\frac{4(4k)+3k}{8(4k)+3k} = 0$

$\frac{16k+3k}{32k+3k}$

$\frac{19k}{35k}$

$4g+h : 8g+5 = 19 : 35$

4. Solve for the ratio $x:y$ if $x^2+3xy-10y^2=0$

$x^2+3xy-10y^2=0$

$(x+5y)(x-2y)=0$

$x+5y=0$	$x-2y=0$
$x = -5y$	$x = 2y$
$\frac{y}{x} = \frac{-5}{1}$	$\frac{y}{x} = \frac{2}{1}$

$x:y = -5:1$ or $x:y = 2:1$

5. If x, y and z represent three positive numbers such that $x:y:z = 4:3:2$ and $x^2-y^2-z^2=27$, find the values of x, y and z.

$x = 4k$

$y = 3k$

$z = 2k$

$(4k)^2-(3)^2k-(2)^2k=27$

$16k-9k-4k=27$

$3k=27$

$x = 4(3) = 12$

$y = 3(3) = 9$

$z = 2(3) = 6$