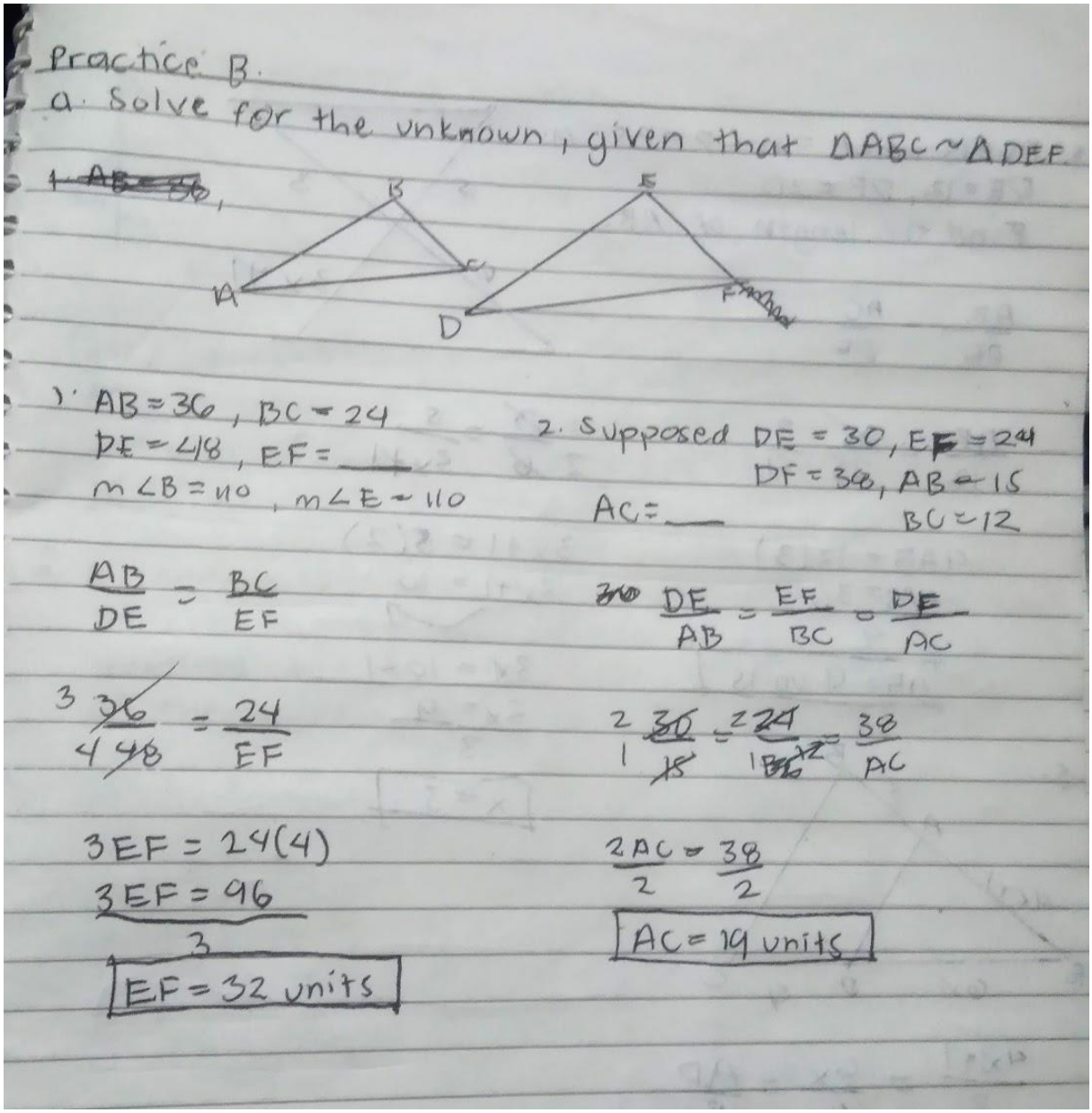
**Angeles City Science High School**

**Mathematics 9**

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



8. AC = 15, $m\angle A = m\angle D = 35$
DE = 12, DF = 20
Find the length of AB.

$\frac{AB}{DE} = \frac{AC}{DF}$

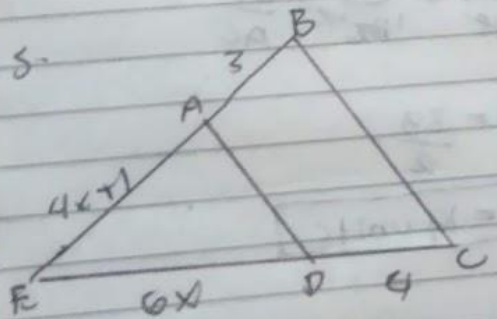
$\frac{AB}{12} = \frac{15}{20}\ \frac{3}{4}$

$4AB = 12(3)$

$\frac{4AB = 36}{4}$

$\boxed{AB = 9 \text{ units}}$

9.




$\frac{4x+1}{3} = \frac{6x}{4} = \frac{AD}{BC}$

$4(4x+1) = 18x$

$16x + 4 = 18x$

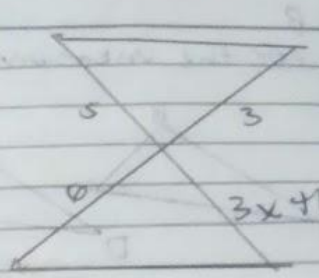
$16x - 18x = -4$

$-(-2x = -4)$

$\frac{2x = 4}{2}$

$\boxed{x = 2}$

10.




$\frac{6}{2} = \frac{5}{3x+1}$

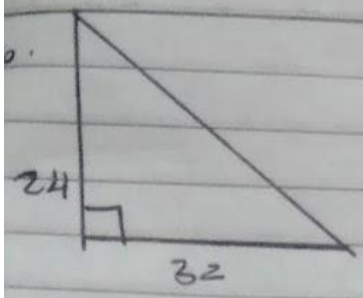
$3x+1 = 5(2)$

$3x+1 = 10$

$3x = 10-1$

$\frac{3x = 9}{3}$

$\boxed{x = 3}$

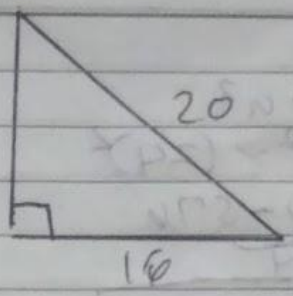



$(24)^2 + (32)^2 = c^2$

$576 + 1024 = c^2$

$\sqrt{1600} = \sqrt{c^2}$

$c = 40$ units




$a^2 = c^2 - b^2$

$a^2 = (20)^2 - (16)^2$

$a^2 = 400 - 256$

$\sqrt{a^2} = \sqrt{144}$

$a = 12$ units

9. A ladder 13 meters long is placed on the ground in such a way that it touches the top of a vertical wall 12 meters high. How far is the foot of the ladder from the bottom of the wall?

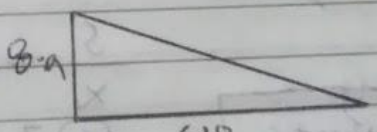
$a^2 = c^2 - b^2$

$a^2 = (13)^2 - (12)^2$

$a^2 = 169 - 144$

$\sqrt{a^2} = \sqrt{25}$

$a = 5$ meters.




$c^2 = a^2 + b^2$

$c^2 = (40)^2 + (9)^2$

$c^2 = 1600 + 81$

$\sqrt{c^2} = \sqrt{1681}$

$c = 41$ units

10. ~~A suit case~~

$b^2 = c^2 - a^2$

$b^2 = (30)^2 - (24)^2$

$b^2 = 900 - 576$

$\sqrt{b^2} = \sqrt{324}$

$b = 18$ inches

Practice B.

1. $\frac{36}{x} = \frac{24}{240} \frac{1}{10}$

$360 = x$

or

$x = 360$ inches

2. $\frac{5}{x} = \frac{12}{y} = \frac{12}{30} \frac{1}{3}$

$12(3) = y$

$y = 36$ units

$\frac{5}{x} = \frac{1}{3}$

$(5)3 = x$

$x = 15$ units

3. $\frac{21}{360+21} = \frac{18}{x}$

$\frac{21}{1067} = \frac{18}{x}$

$21x = 342$

$21$

$x = 48.86$ meters

4. $b^2 = c^2 - a^2$

$b^2 = (41)^2 - (40)^2$

$b^2 = 1681 - 1600$

$\sqrt{b^2} = \sqrt{81}$

$b = 9$ units

5. $\frac{128}{2} = \frac{2x^3}{2}$

$\sqrt{64} = \sqrt{x^3}$

$8 = x$

or

$x = 8$ units