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Addis Ababa, Ethiopia, E-mail- Hillsideplc@yahoo.com, Website -www.Hillside-school.com



Full Name _____ Grade: 8 Section _____ Work sheet 9&10
 Subject: Math Year: 2013 E.C Time allowed _____

Attempt all the questions and write them on your homework exercise book.

1. Identity the following as an equation, inequality or expression.

a) $4(x-3) + 7x^2$: _____

c) 2^x : _____

b) $5(2-x) \leq 7-3x$: _____

d) $4x^2 - 2x + 1 = 0$

2. Solve the following equations and inequalities.

a) $4|x-1| = 16$

b) $2 - |x - 1| = 4$

c) $\frac{3}{2-x} \leq \frac{4}{x+3}$

3. I want to make a rectangular garden with a perimeter of 60m so that its length is twice its width. How wide should it be?

4. Solomon weight 62 kilos, Meseret weights 58 kilos and Mohamed weighs 57 kilos. How much does Helen weigh if the average weight of these four students is 60 kilos?

5. Which of the following equations has a graph that is a vertical line?

A. $2x + 3y = 4$

B. $7x + 6 = 9$

C. $10y - 4 = 6$

D. $y - x = 2$

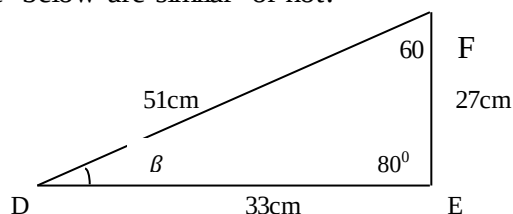
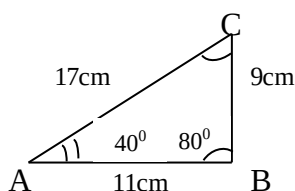
6. Which of the following linear equation has no solution in the given domain?

a) $5x - 3 = 4, x \in \mathbb{Z}$ b) $\frac{3}{2}x - \frac{3}{5} = 4, x \in \mathbb{Q}$ c) $10x = 3(5x-2), x \in \mathbb{Q}^+$ d) $\frac{5}{3}x = x+10, x \in \mathbb{W}$

7. Find an equation of the line containing (2, -5) and having slope 2. If this line contains the points P(p, 10) and Q(-2, k), find the value of p and k?.

8. Write the slope intercept equation of a line that passes through (-2, 1) and (3, -9)

9. Show that the two triangles as shown in figure below are similar or not?



10. If $\triangle ABC \sim \triangle PQR$ and $\overline{AC} = 20\text{cm}$, $\overline{PR} = 15\text{cm}$, $\overline{QR} = 12\text{cm}$ and $\overline{PQ} = 9\text{cm}$. Find the lengths of the other sides of $\triangle ABC$?

11. Which of the following figures are always similar?

- a. Any two circle: _____
- b. Any two quadrilaterals: _____
- c. Any two squared: _____
- d. Any two line segments: _____
- e. Any two equilateral triangles: _____