

Name: Key

Date: _____

Period: _____

2.4 Problem Solving DAY ONE CYU Use when you get it right all by yourself**S** Use when you did it all by yourself, but made a silly mistake**H** Use when you could do it alone with a little help from teacher or peer**G** Use when you completed the problem in a group**X** Use when a question was attempted but wrong (get help)**N** Use when a question was not even attempted

CONCEPTS	BASIC	INTERMEDIATE	ADVANCED
Translating words into equations	1 - 3	4 - 6, 9 - 12	7, 8
Solving equations	1 - 3	4 - 6, 9 - 12	7, 8

1 - 8: Write each of the following as an equation. Then solve. Show all work for full credit.

1. The sum of six times a number, and 1, is equal to five times the number. Find the number.

$$6x + 1 = 5x; x = -1$$

2. The difference of three times a number, and 1, is the same as twice the number. Find the number.

$$3x - 1 = 2x; x = 1$$

3. Three times a number, minus 6, is equal to two times the number plus 8. Find the number.

$$3x - 6 = 2x + 8; x = 14$$

4. The sum of 4 times a number, and -2, is equal to the sum of 5 times the number, and -2. Find the number.

$$4x - 2 = 5x - 2; x = 0$$

5. Twice the difference of a number and 8 is equal to three times the sum of the number and 3. Find the number.

$$2(x - 8) = 3(x + 3); x = -25$$

6. Five times the sum of a number and -1 is the same as 6 times the difference of the number and 5. Find the number.

$$5(x + (-1)) = 6(x - 5); x = 25$$

7. Twice the sum of -2 and a number is the same as the number decreased by
- $\frac{1}{2}$
- . Find the number.

$$2(-2 + x) = x - \frac{1}{2}; x = \frac{7}{2}$$

8. If the difference of a number and four is doubled, the result is
- $\frac{1}{4}$
- less than the number. Find the number.

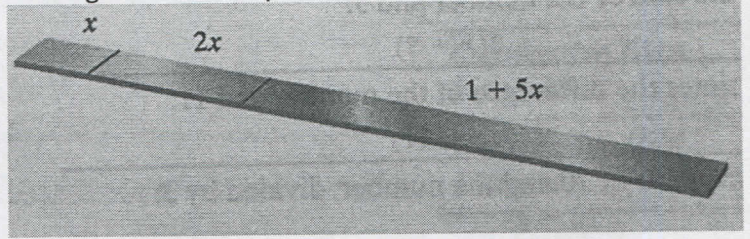
$$2(x - 4) = x - \frac{1}{4}; x = \frac{31}{4}$$

9 – 12: Solve using the image provided. You will not always be provided an image, you may be required to draw one for yourself. So understand how the words create the image provided.

9. A 25-inch piece of steel is cut into three pieces so that the second piece is twice as long as the first piece, and the third piece is one inch more than five times the length of the first piece. Find the lengths of the pieces.

$x = 3$

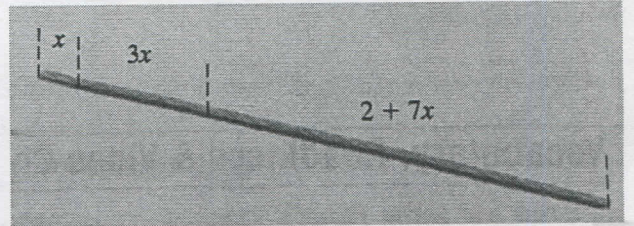
3in, 6in, 16in



10. A 46-foot piece of rope is cut into three pieces so that the second piece is three times as long as the first piece, and the third piece is two feet more than seven times the length of the first piece. Find the lengths of the pieces.

$x = 4 \text{ ft}$

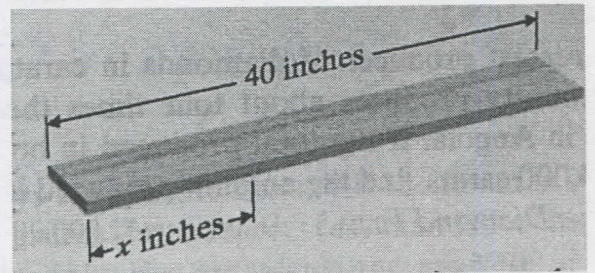
4ft, 12ft, 30ft



11. A 40-inch board is to be cut into three pieces so that the second piece is twice as long as the first piece, and the third piece is 5 times as long as the first piece. If x represents the length of the first piece, find the lengths of all three pieces.

$x = 5$

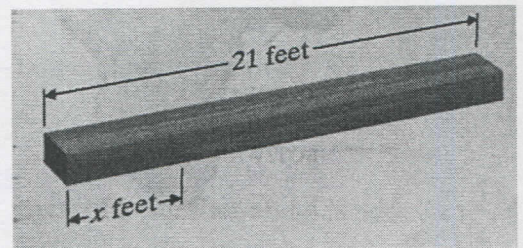
5in, 10in, 25in



12. A 21-foot beam is to be cut into three pieces so that the second, and the third piece are each 3 times the length of the first piece. If x represents the length of the shorter piece, find the lengths of all three pieces.

$x = 3$

3ft, 9ft, 9ft



CYU Reflection: How far can you go: basic, intermediate, or advanced?

Rate your mastery level!

How confident are you with the skills this CYU covered? Circle the score you would give yourself.

●	●	●	●	●	●	●	●
1	2	3	4	5	6	7	8
Basic		Intermediate			Advanced		Solved ALL!

