

**GRADE 12 ESSENTIAL
UNIT A - PROBLEM SOLVING
GUESS AND CHECK (PUZZLE)**

Name: _____

Date: _____

Use the **Guess and Check** method. **Guess** at a reasonable answer! Then **check** to see if you are right. Usually you nail it down within three or four tries. You will know if you have the **correct answers** by **doing the puzzle!**

What Do You Call a Lamb Covered with Chocolate?

Find each correct answer and cross out the letter above it. **When you finish** the answer will remain!

T	L	A	C	X	O	A	M	E	N	C	D	A	Y	B	U	S	A	X	T	R	A	N
7	32	64	17	20	55	92	6	12	13	10	75	80	2	28	15	6	34	54	60	4	11	6

1. Sum of two numbers = 15
Difference of the numbers = 3
Find the numbers.
What is their product? **54**

2. Sum of two numbers = 16
Difference of the numbers = 6
Find the numbers.
What is their product?

'Product' means multiply. 'Sum' means add. 'Difference' = subtract

~~x~~ Guess 1: ~~8+7=15~~ ~~8-7=1~~

✓ Guess 2: $9+6=15$ $9-6=3$

9 and 6 **$9 \cdot 6 = 54$**

3. Sum of two numbers = 13
Difference of the numbers = 1
Find the numbers.
What is the larger number?

4. Sum of two numbers = 11
Product of the numbers = 24
Find the numbers.
What is their difference?

5. Sum of two numbers = 14
Product of the numbers = 40
Find the numbers.
What is their difference?

6. Sum of two numbers = 15
Product of the numbers = 36
Find the numbers.
What is the smaller number?

DO THE PUZZLE. Then you know if you got the correct answer(s)

7. The Vampires played 20 games. The team won 4 more games than it lost. How many games did the Vampires win?
8. Zarina said, "The sum of my age and my father's age is 50. The product of our ages is 400." How old is Zarina?
9. Ernie has twice as many stickers as Bert. Together they have 90 stickers. How many stickers does Ernie have?
10. Tommy said, "My mommy is 4 times as old as I am. The sum of our ages is 40." How old is Tommy's mommy?
11. Henry's sister is 3 years younger than Henry. The product of their ages is 180. How old is Henry?
12. Dad is twice as old as Junior. Gramps is twice as old as Dad. The sum of the three ages is 140. How old is Gramps?
13. The Cyclone Coaster has 16 cars. Some of them hold 2 passengers and some hold 3 passengers. If there is room for 36 people altogether, how many cars hold 3 passengers?
14. A math teacher drove past a farmyard full of chickens and pigs. The teacher noticed that there were a total of 30 heads and 100 legs. How many pigs were there?

Pigs	Chickens	TOTAL Legs
10	20	60 ← $10 \cdot 4 + 20 \cdot 2$
15	15	90
20	10	100 ✓

There are 20 pigs

Target

There is a far more elegant way of doing these! Algebra. Ask your teacher.

DO THE PUZZLE. Then you know if you got the correct answer(s)