

MISSION 3

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ROBOT FACTORY
NUMBER BUILDERS



Build numbers. Take numbers apart.
Engineers can do BOTH!
Let's build your number
skills even stronger.

TODAY'S MISSION GOALS

- Build numbers in different ways
- Break numbers apart
- Use smart strategies

WARM-UP: PLACE VALUE POWER

Look at the place value chart.
Write each number in expanded form
the first one is done for you.

HUNDREDS	TENS	ONES	NUMBER	EXPANDED FORM
			123	100 + 20 + 3
			154	
			72	
			100	
			38	

TIP: Hundreds are big blocks, tens are long rods, and ones are little cubes!

BUILD IT: MAKE THE NUMBER

Use the digits to build the target number.
You can use each digit MORE THAN ONCE!

DIGITS
3 5 7

- 38 $__ \times __ + __ = 38$
- 57 $__ \times __ + __ = 57$
- 63 $__ \times __ + __ = 63$
- 75 $__ \times __ + __ = 75$
- 93 $__ \times __ + __ = 93$

Think: Which digit can be the tens?
Which digit can be the ones?

BREAK IT: NUMBER PARTS

Break each number into different ways.
One is done for you!

- 47 = 40 + 7 ✓
- 47 = $__ + __$
= $__ + __$
- 59 = $__ + __$
= $__ + __$
- 81 = $__ + __$
= $__ + __$
- 100 = $__ + __$
= $__ + __$

There is usually more than one right way to break a number!

NUMBER MACHINE: INPUT → OUTPUT

The number machine follows the rule
inside the box.
Follow the rule to fill in the outputs.



INPUT	OUTPUT
10	35
20	
34	
50	
75	

What rule is it using?
Test it with the first one!

THINK LIKE AN ENGINEER

Solve these real-world number problems.

- Bolt has 67 bolts. Spark has 28 bolts.
How many bolts do they have in all?
- Professor Pixel builds a robot that uses 45 gears. He adds 37 more gears.
How many gears does the robot have now?
- The factory made 120 robot parts. They used 58 parts in the morning.
How many parts are left?

BONUS CHALLENGE

The factory has 3 boxes.
Each box has 28 parts.
How many parts are there in all?

PATTERN BUILDERS

Find the rule. What comes next?

- 15 20 25 30
- 100 90 80 70
- 2 4 6 8
- 3 6 12 24

Look for the pattern.
Predict. Then check
if you're right!

MISSION 3 COMPLETE!

You built numbers, broke numbers apart,
solved problems, and think like a real engineer!
AWESOME WORK, CADET!



COMMANDER SAGE NOTES

What I did well: _____

What I want to practice: _____

A strategy I used: _____

Something new I learned: _____

My favorite part: _____

KEEP BUILDING. KEEP THINKING. YOU'VE GOT THIS!