

# How to work a circuit

1. Start in the top left box that is already numbered question #1

2. Answer the question

"Factor the GFC:  $24a^2b^3 - 56ab^2$ "

Once you have the answer  $8ab^2(3ab - 7)$ , look through the worksheet for one of the two factors (per the directions)

3. This now becomes problem #2. Fill 2 in on the # \_\_\_\_\_

4. Repeat the process. Question #2 says, "factor the trinomial  $a^2 - 10a + 21$  so that is the product of two binomials".

$$a^2 - 10a + 21$$

$$(a - 7)(a - 3)$$

5. This now becomes problem #3. Fill 3 in on the # \_\_\_\_\_

6. Repeat the process until your last answer takes you back to the first box. If you have done them all correctly, you will have used them all when you are complete.

## Circuit Training - Factoring (Mixed, Intermediate)

Name \_\_\_\_\_

Directions: Begin in cell #1. Factor the expression, then search for one of your factors. When you find it, call that problem #2 and continue in this manner until you complete the circuit. You may need to attach additional sheets of paper to showcase your best work.

Answer: _____ # <u>1</u> Factor the GFC: $24a^2b^3 - 56ab^2$	Answer: 2 # _____ If $m = -8$ , then there is a unique solution to the equation $x^2 + mx + 16 = 0$ . What other value of $m$ yields just one solution?
Answer: $a - 4$ # _____ Factor: $49a^2 + 25b^2$	Answer: $a - 5$ # _____ Factor: $49a^2 - 9b^2$
Answer: $a - 3$ # <u>3</u> Factor by grouping: $ab + 7b + 3a + 21$	Answer: $a^2 - 4a + 16$ # _____ The equation $s(t) = -5t^2 + 3t + 2$ gives the height, $s(t)$ , in meters, of a diver at any time $t$ , in seconds, where $t \geq 0$ . When does the diver hit the water?
Answer: $4a - 5$ # _____ Use factoring to solve the equation $x^2 - 2x - 3 = 0$ . What is the sum of the solutions?	Answer: $a^2 - 5a + 25$ # _____ Factor: $9a^2 - 25b^2$
Answer: $5(a - 1)$ # _____ Simplify: $\frac{a^2 - 9}{a^2 + 5a + 6}$ for $a > -2$ .	Answer: $a + 8$ # _____ Factor: $49a^2 - 14a + 1$
Answer: $3ab - 7$ # <u>2</u> Factor the trinomial $a^2 - 10a + 21$ so that it is the product of two binomials.	Answer: $a - 2$ # _____ Factor: $a^3 - 3a^2 + 5a - 15$

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\*\*\* For several of the problems you will have to do some simplifying or algebraic manipulation to make it match the answer that is given. \*\*\*

Even if you get stuck and can't make the circuit work, you can still do the problems. We will be using circuits regularly.