LESSON MAKER PRO

Expression Match Lab

Find pairs that always have the same value.

GRADE 6 · 6.EE.A.4

CCSS.Math.Content.6.EE.A.4 "Identify when two expressions are equivalent (i.e., when the two expressions name the same number regardless of which value is substituted into them). For example..."

NAME _____ DATE _____

SAME VALUE, EVERY TIME

Two expressions are equivalent if they have the same value for every value of the variable. Use the distributive property and combine like terms to rewrite each expression, then compare the results.

WORKED EXAMPLE

Are $5(n + 3)$ and $5n + 15$ equivalent?

1. Distribute 5: $5(n + 3) = 5n + 15$.
2. The second expression is already $5n + 15$.
3. Both expressions simplify to the same expression.

Answer: Yes, 5(n + 3) and 5n + 15 are equivalent.

PRACTICE 6 problems

1 Are 4x + 4x and 8x equivalent? Write yes or no.

ANSWER _____

2 Are 7(a + 2) and 7a + 14 equivalent? Write yes or no.

ANSWER _____

3 Are 9m - 6 and 4(m - 2) equivalent? Write yes or no.

ANSWER _____

4 Are 2p + 12 and 2(p + 6) equivalent? Write yes or no.

ANSWER _____

5 Are 8q + 14 and 2(4q + 6) equivalent? Write yes or no.

ANSWER _____

6 Which expression is equivalent to 8t + 16? A. 4(2t + 4) B. 8(t + 16)

ANSWER _____

APPLY IT Show your work

1 At a robotics fundraiser, each kit earns $4, and the club gets a $12 bonus. Jordan writes the total as 4k + 12. Priya writes the total as 2(2k + 6). Are their expressions equivalent? Show how you know.

WORK SPACE

ANSWER _____

2 A music app charges $8 each month plus a $14 setup fee. Sam writes the cost as 8m + 14. Lee writes the cost as 2(4m + 6). Do the expressions always represent the same cost? Show how you know.

WORK SPACE

ANSWER _____

CHALLENGE One step up

Without substituting a value for x, decide whether 4(2x + 7) + 6 and 8x + 34 are equivalent. Explain your reasoning.

WORK SPACE AND ANSWER

ANSWER KEY

Expression Match Lab

GRADE 6 · 6.EE.A.4

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Are 4x + 4x and 8x equivalent? Write yes or no.	**Yes**
2	Are 7(a + 2) and 7a + 14 equivalent? Write yes or no.	**Yes**
3	Are 9m - 6 and 4(m - 2) equivalent? Write yes or no.	**No**
4	Are 2p + 12 and 2(p + 6) equivalent? Write yes or no.	**Yes**
5	Are 8q + 14 and 2(4q + 6) equivalent? Write yes or no.	**No**
6	Which expression is equivalent to 8t + 16? A. 4(2t + 4) B. 8(t + 16)	**A. 4(2t + 4)**

PART 2 · APPLY IT

1. **Yes.** Both expressions simplify to 4k + 12. Distribute in Priya's expression: 2(2k + 6) = 4k + 12. It matches Jordan's expression.
2. **No.** 2(4m + 6) simplifies to 8m + 12, not 8m + 14. Distribute in Lee's expression: 2(4m + 6) = 8m + 12. The setup fee is different, so the expressions are not equivalent.

CHALLENGE

Yes. Distributing gives 4(2x + 7) + 6 = 8x + 28 + 6 = 8x + 34, so the expressions are equivalent.

Accept equivalent expressions written in a different but correctly simplified form. For explanations, students should show distribution and combining like terms, or clearly state the matching simplified expressions.