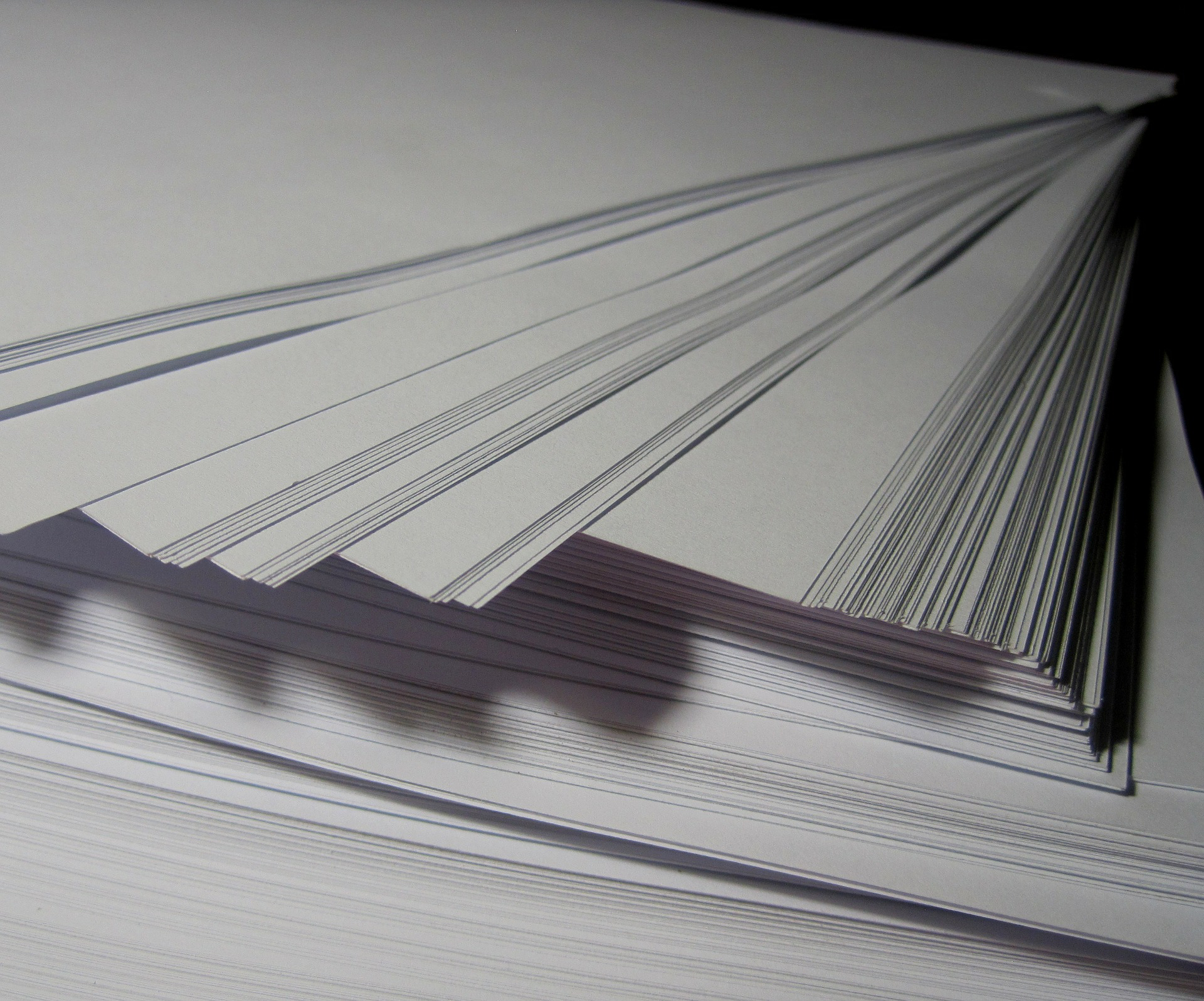
## Unit 2 Lesson 9 Cumulative Practice Problems

1. For each situation, explain whether you think the relationship is proportional or not. Explain your reasoning.
   1. The weight of a stack of standard 8.5x11 copier paper vs. number of sheets of paper.
   2. The weight of a stack of different-sized books vs. the number of books in the stack.

* 
* 

1. Every package of a certain toy also includes 2 batteries.
   1. Are the number of toys and number of batteries in a proportional relationship? If so, what are the two constants of proportionality? If not, explain your reasoning.
   2. Use for the number of toys and for the number of batteries to write two equations relating the two variables.
2. Lin and her brother were born on the same date in different years. Lin was 5 years old when her brother was 2.
   1. Find their ages in different years by filling in the table.

|  |  |
| --- | --- |
| * + Lin's age | * + Her brother's age |
| * + 5 | * + 2 |
| * + 6 |  |
| * + 15 |  |
|  | * + 25 |

* 1. Is there a proportional relationship between Lin’s age and her brother’s age? Explain your reasoning.

1. A student argues that does not represent a proportional relationship between and because we need to multiply one variable by the same constant to get the other one and not divide it by a constant. Do you agree or disagree with this student?

* (From Unit 2, Lesson 8.)

1. Quadrilateral A has side lengths 3, 4, 5, and 6. Quadrilateral B is a scaled copy of Quadrilateral A with a scale factor of 2. Select **all** of the following that are side lengths of Quadrilateral B.
   1. 5
   2. 6
   3. 7
   4. 8
   5. 9

* (From Unit 1, Lesson 3.)



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