Contest Problem Set 12221

Target Round Problem 7

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Emily needed to read a book over the weekend. On Friday after school, she started reading the book from the beginning. That evening she read half the pages of the book plus an additional twelve pages. On Saturday morning, she read half the remaining pages plus an additional nine pages. On Sunday, she read the final forty-seven pages of the book. How many pages long was the book?

Let n be the book's number of pages.
How many pages are left to read before Friday?

$$n$$

Let n be the book's number of pages.
How many pages are left to read after Friday evening?

$$\frac{n}{2} - 12$$

Let n be the book's number of pages.
How many pages are left to read after Saturday morning?

$$\frac{\frac{n}{2} - 12}{2} - 9$$

Let n be the book's number of pages.
How many pages are left to read after Sunday?

$$\frac{\frac{n}{2} - 12}{2} - 9 - 47$$

Let n be the book's number of pages.
How many pages are left to read after Sunday?

$$\frac{\frac{n}{2} - 12}{2} - 9 - 47 = 0$$

Solving for n, we have that

$$\frac{\frac{n}{2} - 12}{2} - 9 - 47 = 0.$$

Solving for n, we have that

$$\frac{\frac{n}{2} - 12}{2} = 9 + 47.$$

Solving for n, we have that

$$\frac{\frac{n}{2} - 12}{2} = 56.$$

Solving for n, we have that

$$\frac{n}{2} - 12 = 112.$$

Solving for n, we have that

$$\frac{n}{2} = 124.$$

Solving for n, we have that

$$n = \boxed{248}.$$

Concepts

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- forward thinking

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- forward thinking
- backward thinking