

Worked Examples:

Word problem involving a modular arithmetic system

Every seven days, the days of the week repeat. So, it can be helpful to do arithmetic using a modulus of 7 for certain calculations involving the days of the week. Because of this, we'll represent each day as a number as shown in the table below.

0	1	2	3	4	5	6
Sun	Mon	Tue	Wed	Thu	Fri	Sat

(a) Find the smallest whole number that makes the statement true.

$$17 \equiv \boxed{} \pmod{7}$$

(b) Your answer to part (a) gives the day of the week represented by 17. What is this day?

(Choose one) ▼

(c) At the animal sanctuary a veterinarian examined a pregnant tigress and determined it is expected to give birth in 107 days. If the vet examined the tigress on Saturday, on what day of the week is the tigress expected to give birth?

(Choose one) ▼

