Fall 2026, Math 296: Week 11 Preliminary Problems
Due: Thursday, November 5th, 2026
More Functions

Preliminary problems. These problems should be completed before discussion on Thursday.

(P1) Let $A = \{1, 2\}$ and $B = \{5, 6, 7\}$.

(a) Fill in the following table of all possible injective functions $f : A \to B$.

$f(1) = _5_$	$f(1) = ____$	$f(1) = ____$	$f(1) = ____$	$f(1) = ____$	$f(1) = ____$
$f(2) = _6_$	$f(2) = ____$	$f(2) = ____$	$f(2) = ____$	$f(2) = ____$	$f(2) = ____$

(b) Fill in the following table of all possible surjective functions $f : B \to A$.

$f(5) = _1_$	$f(5) = ____$	$f(5) = ____$	$f(5) = ____$	$f(5) = ____$	$f(5) = ____$
$f(6) = _1_$	$f(6) = ____$	$f(6) = ____$	$f(6) = ____$	$f(6) = ____$	$f(6) = ____$
$f(7) = _2_$	$f(7) = ____$	$f(7) = ____$	$f(7) = ____$	$f(7) = ____$	$f(7) = ____$

(c) Fill in the following table of all possible bijective functions $f : B \to B$.

$f(5) = ____$	$f(5) = ____$	$f(5) = ____$	$f(5) = ____$	$f(5) = ____$	$f(5) = ____$
$f(6) = ____$	$f(6) = ____$	$f(6) = ____$	$f(6) = ____$	$f(6) = ____$	$f(6) = ____$
$f(7) = ____$	$f(7) = ____$	$f(7) = ____$	$f(7) = ____$	$f(7) = ____$	$f(7) = ____$