

1

Each of the letters in the table above represents one of the numbers 1, 2, or 3, and each of these numbers occurs exactly once in each row and exactly once in each column. What is the value of  $r$ ?

(1)  $v + z = 6$ .

Attachment:

$r$	$s$	$t$
$u$	$v$	$w$
$x$	$y$	$z$

Since  $v$  and  $z$  are 1, 2, or 3, then  $v=z=3$ . So, we have 3 in the second and third columns, which mean that neither  $s$  nor  $t$  can be 3, which means that  $r$  must be 3. Sufficient.

(2)  $s + t + u + x = 6$ .

Attachment:

$r$	$s$	$t$
$u$	$v$	$w$
$x$	$y$	$z$

We can have two combinations of the numbers to satisfy  $s + t + u + x = 6$ :

$1+1+1+3=6$  OR  $1+1+2+2=6$ . The first case is not possible since in this case three letters out of  $s$ ,  $t$ ,  $u$  and  $x$  would be 1, which would mean that either in the first row or in the first column we have the same number 1.

So, we have  $1+1+2+2=6$  case, which means that  $r$  must be 3 (since no other number in the first column or the first row is 3). Sufficient.

Answer: D.

2

The figure above represents a circle graph of Company H's total expenses broken down by the expenses for each of its five divisions. If  $O$  is the center of the circle and if Company H's total expenses are \$5,400,000, what are the expenses for Division R?

(1)  $x = 94$ . The expenses for Division R =  $94/360 \times \$5,400,000$ . Sufficient.

(2) The total expenses for Divisions S and T are twice as much as the expenses for Division R. Not sufficient.

Answer: A.

