## Mixed operations word problems

A team of 24 customer service representatives works at a customer service hotline which operates 24 hours a day. There are four shifts. Normal shifts are from 5 am to $11 \mathrm{am}, 11 \mathrm{am}$ to 5 pm and 5 pm to 11 pm . Midnight shift is from 11 pm to 5 am .

On average, 630 calls are received everyday during the 3 normal shifts and 115 calls are received during the midnight shift.

1. If only 3 customer representatives work during the midnight shift, how many representatives work on each of the other three shifts?
2. On average, are there more calls received during one normal shift or one midnight shift?
3. On average, how many calls are received by each representative during each hour of the normal shift?

4. The representatives that work on normal shifts will be paid $\$ 12$ per hour and those who work on midnight shift will be paid $\$ 18$ per hour. What is the daily salary for a representative that works the midnight shift?
5. Last Friday, a total of 764 calls were received during all four shifts. How many more calls were received compared to the average number of calls?
6. Write an equation using " $x$ " and then solve the equation. According to the customer representative guidelines, the representative should rest for $x$ minutes for every hour of their duty. During each hour of their duty, they should answer 5 calls which means they have around 10 minutes of each call.

## Answers

1. $24-3=21$

21 representatives that does not work on the midnight shift.
$21 \div 3=7$
7 representatives work on each of the other 3 shifts.
2. $630 \div 3=210$

On average, 210 calls are received during one normal shift and 115 calls are received during midnight shift. So, more calls are received during one normal shift.
3. $210 \div 6 \div 7=5$

On average, each representative takes 5 calls during each hour of the normal shift.
4. $18 \times 6=\$ 108$

The daily salary for a representative that works on midnight shift is $\$ 108$.
5. $630+115=745$

On average, 745 calls are received during all four shifts.
$764-745=19$
Compared to the average number of calls, 19 more calls were received on Friday.
6. $60-x=5 \times 10$
$60-x=50$
$x=10$
They should rest for 10 minutes each hour.

