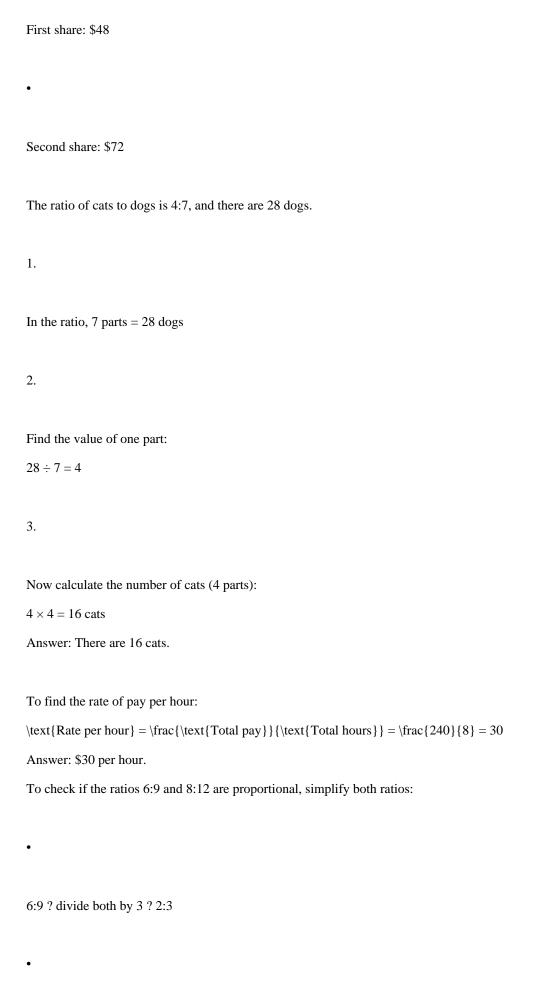
Answers

To simplify the ratio 12:16, divide both numbers by their greatest common divisor (GCD).
The GCD of 12 and 16 is
Now divide both numbers by
•
$12 \div 4 = 3$
•
$16 \div 4 = 4$
Simplest form: 3:4.
To divide \$120 in the ratio 2:3:
Add the parts of the ratio:
2 + 3 = 5 parts total
Find the value of one part:
(
•
First part (2 parts): $2 \times $24 = 48
a
•
Second part (3 parts): $3 \times \$24 = \72
NN
Answer:

•



8:12 ? divide both by 4 ? 2:3
Since both simplify to 2:3, yes, the ratios are proportional.
If 3 shirts cost \$45, first find the cost per shirt:
$\frac{45}{3} = 15 \text{ dollars per shirt}$
Now multiply by 5:
5 \times 15 = 75
Answer: 5 shirts would cost \$75.
If 5 pens cost \$10, first find the cost per pen:
$\frac{10}{5} = 2 \text{ dollars per pen}$
Now calculate the cost of 12 pens:
12 \times $2 = 24$
Answer: 12 pens would cost \$24.
The class has:
•
18 boys
•
12 girls
•
Total students = $18 + 12 = 30$
So, the ratio of boys to total students is:
$\frac{18}{30} = \frac{3}{5}$
Answer: The ratio is 3:5.
To find 25% of 480:
25\% \times 480 = \frac{25}{100} \times 480 = \frac{1}{4} \times 480 = 120
Answer: 25% of 480 is 120.
A 20% discount means the jacket was sold for 80% of the original price:
0.8x = 150

Now solve for x:
$x = \frac{150}{0.8} = 187.50$
Answer: The original price was \$187.50.
To calculate 5% commission on \$2,000:
$\frac{5}{100}$ \times $2000 = 0.05$ \times $2000 = 100$
Answer:
The salesperson earns \$100 in commission.
Given:
60% x = 180
Rightarrow 0.6x = 180
Now solve for x:
$x = \frac{180}{0.6} = 300$
Answer: The original number is 300.
To calculate simple interest, use the formula:
$\label{eq:continuous_simple_simple} $$ \operatorname{Simple Interest}(SI) = \operatorname{Interest}(P \times R \times T) \{100\} $$$
Wh
e
re:
•
P = 1200 (principal)
•
R = 5% (rate)
•
T = 3 years
$\text{text}\{SI\} = \frac{1200 \times 5 \times 3}{100} = \frac{18000}{100} = 180$
Answer: The simple interest is \$180.
To calculate compound interest and the total amount, use the formula:
$A = P \left\{ 100 \right\} \right\} $
Where:

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P = 2000 (principal)
r = 10\% (rate)
t = 3 years
A = 2000 \ | \ times \ (1.1)^3 = 2000 \ | \ times \ (1.1)^3
A = 2000 \setminus times 1.331 = 2662
Answer: The total amount after 3 years is $2,662.
To find the total amount to be repaid, we first calculate the simple interest using the formula:
\text{text}\{SI\} = \text{frac}\{P \text{ times } R \text{ times } T\}\{100\}
Where:
P = 2000
R = 6 \backslash \%
T = 2 years
\label{eq:sigma} $$ \text{$100} = \frac{24000}{100} = \frac{24000}{100} = 240 $$
Now add the interest to the principal:
text{Total amount} = 2000 + 240 = 2240
Answer: The total amount to be repaid is $2,240.
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