Prorating

What is prorating?

Prorating means dividing a quantity proportionally based on some criterion such as time, usage, ownership, or contribution. The basic formula is:

$$\text{Prorated Share} = \frac{\text{Individual Portion}}{\text{Total}} \times \text{Amount to Divide}$$

Prorating ensures fairness when parties contribute or consume unequal amounts.

Prorating by time

When someone works, rents, or subscribes for only part of a period, their payment is prorated based on the time used.

$$\text{Prorated Amount} = \frac{\text{Days (or time) Used}}{\text{Total Days (or time) in Period}} \times \text{Full Amount}$$

Example: An employee starts a job on March 15. If the monthly salary is \$4,500, what is the prorated pay for March? (March has 31 days.)

$$\text{Days worked} = 31 - 14 = 17 \text{ days}$$

$$\text{Prorated salary} = \frac{17}{31} \times \$4,500 = \$2,467.74$$

Example: A tenant moves out on October 18. If the monthly rent is \$1,800, how much rent is owed for October?

$$\text{Prorated rent} = \frac{18}{31} \times \$1,800 = \$1,045.16$$

Caution: Pay attention to whether the start/end day is included. "Starting March 15" typically means March 15 is a working day (so 31 minus 14, not 31 minus 15).

Prorating by contribution or ownership

When partners, investors, or shareholders contribute different amounts, profits (or losses) are divided in proportion to their contributions.

$$\text{Individual Share} = \frac{\text{Individual Contribution}}{\text{Total Contribution}} \times \text{Amount to Divide}$$

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Example: Three partners invested $10,000, $15,000, and $25,000 in a business. If the annual profit is $80,000, how should it be divided?

$$\text{Total investment} = \$10{,}000 + \$15{,}000 + \$25{,}000 = \$50{,}000$$

$$\text{Partner 1: } \frac{\$10{,}000}{\$50{,}000} \times \$80{,}000 = \$16{,}000$$

$$\text{Partner 2: } \frac{\$15{,}000}{\$50{,}000} \times \$80{,}000 = \$24{,}000$$

$$\text{Partner 3: } \frac{\$25{,}000}{\$50{,}000} \times \$80{,}000 = \$40{,}000$$

Alternatively, express as a ratio: $10{,}000 : 15{,}000 : 25{,}000 = 2 : 3 : 5$ **(10 parts total)**, then multiply each ratio part by $\$80{,}000 \div 10 = \$8{,}000$.

Prorating property taxes and utilities

When property is sold, taxes and utilities are often prorated between buyer and seller based on the closing date.

Example: Annual property tax is $3,600. The house closes on September 15. How much does the seller owe if taxes are prorated daily? (Assume 365 days.)

$$\text{Days seller owned property} = 258 \text{ days (Jan 1 to Sep 15)}$$

$$\text{Seller's share} = \frac{258}{365} \times \$3{,}600 = \$2{,}544.66$$

Verification tip

Always verify your answer: the prorated shares should sum to the total amount being divided. If they don't, check your calculations.

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