

BUSINESS MATH

NINTH
EDITION



NEXT SECTION



- Find the cash discount and the net amount using ordinary **dating terms**.
- Interpret and apply EOM **End of Month** and ROG **Receipt of Goods** terms.
- Find the amount credited and outstanding balance from partial payments.
- Interpret freight terms.

Find the cash discount and the net amount using ordinary dating terms

8-3-1

Section 8-3

Cash Discounts and Sales Terms

- Bills are often due within thirty days from the date of the invoice.
 - To encourage prompt payment, companies offer an incentive of a **cash discount** if the invoice is paid within a specified period.

2/10 n/30 means “*take a 2% cash discount if paid within 10 days; pay the net price if paid within 30 days*”.

Find the cash discount for an invoice dated December 1 for \$1,500 with terms of 2/10 n/30.

If the invoice is paid on December 9th, for example, the payment would include the discount and the amount would be **\$1,470**.

If the invoice is paid on or after December 11th, the amount to pay would be **\$1,500**.

- Annie's Plants has received an invoice for \$450 for potting soil dated November 3 with terms of 5/10 n/30. If the invoice is paid on November 12, how much would Annie's pay?
 - **\$427.50**
- What if the bill is paid on November 30?
 - They would not be able to take the discount and would have to pay the **full amount of \$450**.

- To calculate the exact number of days for a cash discount, you must know how many days are in **each** month, so if you are not sure...learn them.
 - Using a chart is usually the most reliable.

An invoice of \$500 which reads 2/10 n/30 tells you that a discount of 2% is available if the payment is made within 10 days.

To calculate the net amount directly, use the complement of the discount (in this case, 0.98) and multiply it by the total amount.

$$\mathbf{\$500 \times 0.98 = \$490 = \text{net amount to be paid}}$$

Sycamore Enterprises received a \$1,248 bill for computer supplies dated September 2, with sales terms of 2/10, 1/15, n/30.

A 5% penalty is charged after 30 days.

Find the amount due for the following dates:

September 12, September 15, October 1, October 3.

September 12	(2% discount)	= \$1,223.04
September 15	(1% discount)	= \$1,235.52
October 1	(no discount)	= \$1,248.00
October 3	(5% penalty)	= \$1,310.40

- An invoice might be **2/10 EOM**—meaning a 2% discount is allowed if the bill is paid during the first month or up until **10** days of the month **after** the month on the date of the invoice.
 - If the invoice is dated **November 19**, then the 2% discount is allowed up to and including **December 10**.

- An invoice dated March 4, with terms of 3/15 EOM.
 - A 3% discount would be applicable until April 15.
- An August 25 invoice with terms of 5/10 EOM.
 - A 5% discount would apply until September 10.
- December 2 with terms of 2/20 EOM.
 - 2% discount until January 20.

- An exception occurs when the invoice is dated **on** or **after the 26th of the month**.
 - The discount would be applicable until the specified day of the month following the month of the invoice.

An invoice dated April 27 with terms of 3/10 EOM would be eligible for the discount if the bill is paid on or before June 10.

- A cash discount is allowed when the bill is paid within the specified number of days from the **receipt of goods**.
 - Not from the date of the invoice.

Multiply the invoice amount times the complement of the discount rate.

- Sales terms stating **1/10 ROG** means that a **1%** discount is applicable **10 days after the goods are received**,
 - *Not* when the invoice is dated.

- Judy's Fine Jewelry received an invoice for 50 silver charm bracelets for a total of \$550. The invoice is dated April 1. She received the bracelets on April 6. If the terms are 3/10 ROG and the invoice is paid on April 11, how much will she pay?
– **\$533.50**

- A company sometimes cannot pay the full amount due in time to take advantage of a cash discount.
 - Most sellers allow buyers to make a **partial payment** and still get a **partial cash discount**.

- In applying the percentage formula to find the amount credited:
 - The **rate is the complement** of the discount rate.
 - The **percentage is the partial payment.**
 - The **amount credited is the base.**

$$B = P/R$$

■ **Partial payment**

- A payment that does not equal the full amount of the invoice less any cash discount.

■ **Partial discount**

- A cash discount applied only to the amount of the partial payment.

■ **Amount credited**

- The sum of the partial payment and the partial discount.

■ **Outstanding balance**

- The invoice amount minus the amount credited.

If the Semmes Corporation received a \$875 invoice with terms of 3/10 n/30 and could not pay the full amount within 10 days, but chose to send in a \$500 partial payment on Day 5, what amount was credited to their account?

B (amount credited) = P (partial payment) divided by R (complement of the discount rate)

$$B = 500/0.97 = \$515.46 = \text{amount credited}$$

The balance would be the difference.

$$\$875 - \$515.46 = \$359.54 = \text{balance}$$

- Manufacturers rely on a wide variety of carriers (truck, rail, ship, plane, etc.)
 - Terms of freight shipment are indicated on a **bill of lading**
 - Freight payment terms are usually specified on the *manufacturer's price list*.

Term	Who Pays	When	Who Doesn't Pay
FOB-shipping	Buyer	On receipt	Seller
Freight collect	Buyer	On receipt	Seller
FOB-destination	Seller	When shipped	Buyer
Freight paid	Seller	When shipped	Buyer
Prepay and add	Both	Seller pays when shipped; buyer pays with invoice payment	Seller gets reimbursed for shipping

■ **Bill of lading**

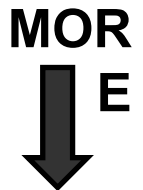
- A shipping document that includes a description of the merchandise, the number of pieces, weight, name of the consignee (sender), destination, and method of payment of freight charges.

■ **FOB (Free On Board) shipping point**

- Buyer pays for shipping when shipment is received.

■ **Freight collect**

- The buyer pays the shipping when the shipment is received.



■ **FOB destination:**

- The seller pays the shipping when the merchandise is shipped.

■ **Freight paid**

- The seller pays the shipping when the merchandise is shipped.

■ **Prepay and add**

- The seller pays the shipping when the merchandise is shipped; but, the shipping costs are added to the invoice for the buyer to pay.

The Home Doctor received a shipment of hand tools with an invoice total of \$800 (including shipping) and sales terms of 3/10 n/30. The invoice is dated June 2 and the shipping costs are \$125. Calculate the payment of the invoice if it is paid on June 10.

Remember that cash discounts *do not* apply to shipping costs!

Subtract the shipping charges: $\$800 - 125 = \675

Apply the discount: $\$675 \times 0.97 = \654.75

Add the shipping charges back in:

$\$654.75 + 125 = \$779.75 = \text{amount to be paid}$