



Computing Trade Discount and Net Price

The **list price**, or catalog price of an item, is the price for which you can generally sell an item. You can purchase the item at a **trade discount**, which is a discount off the list price. The **trade-discount rate** is the amount of the discount expressed as a percentage. The **net price** is the price you actually pay for the item.

Example

Find the net price.

Home Décor is purchasing a clock motor for a grandfather clock. The list price of the motor is \$499. Home Décor receives a 35 percent trade discount from the wholesaler. What is the net price of the motor?

1. Find the trade discount.

$$\text{Trade Discount} = \text{List Price} \times \text{Trade-Discount Rate}$$

$$\$499 \times 35\% = \$174.65$$

2. Find the net price.

$$\text{Net Price} = \text{List Price} - \text{Trade Discount}$$

$$\$499 - \$174.65 = \$324.35 \text{ net price}$$

Practice

Find the trade discount and the net price. Round to the nearest cent.

	List Price	Trade-Discount Rate	Trade Discount	Net Price
1.	\$250.00	30%	a.	b.
2.	975.00	40%	a.	b.
3.	732.50	27.5%	a.	b.
4.	489.27	37.25%	a.	b.

5. The catalog price for a refrigerator is \$1,249. The manufacturer offers its resellers a 25 percent trade discount. What is the reseller's net price for the refrigerator?
6. Bridal Bouquets placed an order for 75 dozen roses from Wholesale Florists. A dozen roses have a list price of \$14.29. If the wholesaler offers Bridal Bouquets a 22.5 percent trade discount, what is the net price for the order?
7. Custom Greetings places an order for 500 reams of card stock paper. Its supplier offers Custom Greetings a 35 percent trade discount. If a ream of paper has a list price of \$5.89, what is the net price of Custom Greetings' order?
8. **Standardized Test Practice** Wholesale Gardening offers its distributors a trade discount of 20 percent on all plants and 30 percent on all trees. Maple trees have a list price of \$24.95. Geranium plants have a catalog price of \$3.50. Landscape King places an order for 50 maple trees and 100 geraniums. What is the net price of the order?
 A. \$20.27 B. \$1,118.25 C. \$1,153.25 D. \$1,278.00



15-2

Calculating the Net Price Using the Complement Method

Another way of finding the net price is the **complement method**. The complement of your trade-discount rate is 100 percent minus the discount rate. This is sometimes called the *net-price rate*. You can multiply the list price by the complement to find the net price.

Net Price = List Price × Complement of Trade-Discount Rate

Example

Find the net price.

Home Décor is purchasing a clock motor for a grandfather clock. The list price of the motor is \$499. Home Décor receives a 35 percent discount from the wholesaler. What is the net price of the motor?

- Find the complement of the trade-discount rate.
 $100\% - 35\% = 65\%$

- Find the net price.

Net Price = List Price × Complement of Trade-Discount Rate

$\$499 \times 65\% = \324.35 net price

Practice

Find the complement of the trade-discount rate and the net price. Round to the nearest cent.

	List Price	Trade-Discount Rate	Complement	Net Price
1.	\$500.00	30%	a.	b.
2.	985.00	25%	a.	b.
3.	418.00	32.5%	a.	b.
4.	133.67	22.75%	a.	b.

- The catalog price for a washer is \$999. The manufacturer offers its resellers a 25 percent trade discount. What is the complement of the trade discount?
- Bridal Bouquets placed an Easter order for 150 lilies from Wholesale Florists. Each lily has a list price of \$5.49. The wholesaler gives Bridal Bouquets a 22.5 percent trade discount. What is the net price for the order?
- Custom Greetings places an order for 500 reams of card stock paper. Its supplier offers Custom Greetings a 35 percent trade discount. A ream of paper has a list price of \$5.89. What is the complement of the trade discount?
- Standardized Test Practice** Wholesale Gardening offers its distributors a trade discount of 20 percent on all plants, 25 percent on all bushes, and 30 percent on all trees. Maple trees have a list price of \$24.95. Lilac bushes list for \$15.85. Geranium plants list for \$3.50. Landscape King places an order for 50 maple trees, 75 lilac bushes, and 100 geraniums. What is the net price for the lilacs?
A. \$2,044.81 **B.** \$11.89 **C.** \$1,188.75 **D.** \$891.56

15-3

Determining the Trade-Discount Rate

If you know both the list price and the net price, you can easily determine the **trade-discount rate**, which is the amount of the discount of an item expressed as a percentage of the list price.

$$\text{Trade-Discount Rate} = \frac{\text{Trade Discount}}{\text{List Price}}$$

Example

Find the trade-discount rate.

Antique Wholesalers lists a grandfather clock motor in its catalog for \$499. The net price to the retailer, Home Décor, is \$350. What is the trade-discount rate?

- Find the trade discount.

$$\text{Trade Discount} = \text{List Price} - \text{Net Price}$$

$$\$499 - \$350 = \$149$$

- Find the trade-discount rate.

$$\text{Trade-Discount Rate} = \text{Trade Discount} \div \text{List Price}$$

$$\$149 \div \$499 = 29.86\% \text{ trade-discount rate}$$

Practice

Find the trade discount and the trade-discount rate. Round to the nearest hundredth percent.

	List Price	Net Price	Trade Discount	Trade-Discount Rate
1.	\$ 65.00	\$ 50.00	a.	b.
2.	115.00	98.00	a.	b.
3.	198.00	142.50	a.	b.
4.	237.75	176.56	a.	b.

- A washing machine lists for \$999. The manufacturer offers its resellers a net price of \$649. What is the trade-discount rate for the washing machine?
- Bridal Bouquets placed an Easter order for 150 lilies from Wholesale Florists. Each lily has a list price of \$5.49 and a net price of \$4.29. What is the trade-discount rate?
- Custom Greetings placed an order for 500 reams of card stock paper. Its supplier offers the paper at a list price of \$5.89 per ream and a net price of \$4.50. What is the trade-discount rate for the paper?
- Standardized Test Practice** Wholesale Gardening lists maple trees for \$24.95, lilac bushes for \$15.85, and geranium plants for \$3.50. Landscape King receives a net price of \$18.75 on maple trees, \$12.19 on lilac bushes, and \$2.75 on geranium plants. What is the trade-discount rate for the lilac bushes?
 A. 23.95% B. 24.85% C. 23.09% D. 21.43%



15-4

Determining Final Net Price after Chain of Discounts

A **chain discount** is a series of trade discounts. You don't simply add up the discounts to get the chain discount. You must calculate each discount individually on the new net price from the previous discount.

Example

Find the final net price.

Home Décor has a grandfather clock in stock it wants to clear out. The clock originally sold for \$1,585. Home Décor is offering a discount of 25 percent less 15 percent, also written as 25/15. What is the final net price of the grandfather clock?

- | | |
|---|---|
| 1. Find the first discount.
$\$1,585 \times 25\% = \396.25 | 2. Find the first net price.
$\$1,585 - \$396.25 = \$1,188.75$ |
| 3. Find the second discount.
$\$1,188.75 \times 15\% = \178.31 | 4. Find the final net price.
$\$1,188.75 - \$178.31 = \mathbf{\$1,010.44}$ final net price |

Practice

Find the first discount, the first net price, the second discount, and the final net price.

	List Price	Chain Discount	First Discount	First Net Price	Second Discount	Final Net Price
1.	\$ 750.00	25% less 20%	a.	b.	c.	d.
2.	1,275.00	35% less 10%	a.	b.	c.	d.
3.	1,988.00	20% less 20%	a.	b.	c.	d.
4.	627.46	15% less 10%	a.	b.	c.	d.

- Wholesale Florists has several dozen roses left over from Valentine's Day. It offers Bridal Bouquets a chain discount of 15/15. If a dozen roses listed for \$24.95 and Bridal Bouquets places an order for 75 dozen, what is the net price of the order?
- Custom Greetings places an order for 500 reams of card stock paper. Its supplier offers a chain discount of 25 percent less 15 percent. The paper has a catalog price of \$5.89 per ream. What is the net price of the paper?
- Standardized Test Practice** Wholesale Gardening lists maple trees for \$24.95, lilac bushes for \$15.85, and geranium plants for \$3.50. It's offering a chain discount of 15 percent less 10 percent less 5 percent. Landscape King orders 50 maple trees, 25 lilac bushes, and 75 geraniums. What is the net price?
A. \$1,906.25 **B.** \$1,458.28 **C.** \$1,385.37 **D.** \$1,334.37

15-5

Proving the Final Net Price with the Complement Method

The complement method can also be used with chain discounts. First subtract each discount from 100 percent to find its complement. Then multiply the complements to find the percent you actually pay, which is the **net-price rate**. The complement method can also be used to find the dollar amount of the discount. Multiply the **single equivalent discount (SED)**, or the complement of the net-price rate, by the list price to find the discount.

SED = Complement of Net-Price Rate

Discount = List Price × SED

Example

Find the final net price.

Home Décor has a grandfather clock in stock it wants to clear out. The clocks originally sold for \$1,585. Home Décor is offering a discount of 25 percent less 15 percent, also written as 25/15. What is the final net price of the grandfather clock?

1. Find the complements.

Complement of 25% is 75%.

Complement of 15% is 85%.

2. Find the net-price rate.

Net Price Rate = Product of Complements of Chain-Discount Rates

$75\% \times 85\% = 63.75\%$

3. Find the net price.

Net Price = List Price × Net-Price Rate

$\$1,585 \times 63.75\% = \$1,010.44$ net price

Practice

Find the net-price rate, the net price, the SED, and the discount.

	List Price	Chain Discounts	Net-Price Rate	Net Price	SED	Discount
1.	\$ 750.00	25%/10%	a.	b.	c.	d.
2.	925.00	30%/20%	a.	b.	c.	d.
3.	1,082.00	20%/15%	a.	b.	c.	d.
4.	1,319.95	35%/25%	a.	b.	c.	d.

5. Custom Greetings places an order for 500 reams of card stock paper. Its supplier offers a chain discount on the paper of 25 percent less 15 percent. The paper has a list price of \$5.89 per ream. What is the SED? What is the total discount on the order?
6. **Standardized Test Practice** Wholesale Gardening lists maple trees for \$24.95, lilac bushes for \$15.85, and geranium plants for \$3.50. It's offering a chain discount of 15 percent less 10 percent less 5 percent. Landscape King orders 50 maple trees, 25 lilac bushes, and 75 geraniums. What is the total discount on the order?
 A. \$1,906.25 B. \$571.88 C. \$1,385.37 D. \$520.88



15-6

Computing the Cash Price with an Ordinary Dating Discount

An **invoice** gives the details of each purchase you make from a supplier. As an incentive to pay early, the supplier may offer a **cash discount** if the bill is paid within a certain number of days. The exact terms of the discount are stated on the invoice. Many suppliers use **ordinary dating**. If the invoice says 2/10, net 30 (or 2/10, n/30), that means there is a 2 percent cash discount if paid within 10 days and the net price must be paid within 30 days.

Example

Find the cash price.

Home Décor received an invoice from its supplier. The net total for a grandfather clock was \$1,375 and payment terms stated 2/15, net 30. What is the cash price of the clock if Home Décor pays within 15 days?

- Find the cash discount.
 $\$1,375 \times 2\% = \27.50

- Find the cash price.

Cash Price = Net Price – Cash Discount OR

Cash Price = Net Price × Complement of Cash-Discount Rate

$\$1,375 - \$27.50 = \$1,347.50$ cash price

Practice

Find the last date to take the discount, the last day to pay the invoice, the cash discount, and the cash price.

	Invoice Date	Terms	Last Date to Take Discount	Last Date to Pay Invoice	Date Paid	Net Price	Cash Discount	Cash Price
1.	3/15	2/10, n/30	a.	b.	3/21	\$ 291.00	c.	d.
2.	4/12	2/15, n/30	a.	b.	4/27	547.50	c.	d.
3.	5/7	1/15, n/30	a.	b.	5/24	382.44	c.	d.
4.	6/21	3/10, n/30	a.	b.	7/1	1,934.75	c.	d.

- Wholesale Florists sent Bridal Bouquets an invoice for \$395 with payment terms of 2/10, 1/20, net 30. The invoice is dated 5/15. What is the cash price if Bridal Bouquets pays the invoice on 5/24? What is the cash price if it pays it on 5/31?
- Standardized Test Practice** Wholesale Gardening lists maple trees for \$24.95. It offered Landscape King a chain discount of 15 percent less 10 percent. Landscape King ordered 50 maple trees and received an invoice dated 5/25 with payment terms of 3/10, net 30. What was the cash price if the invoice is paid on June 4?
A. \$1,247.50 B. \$954.34 C. \$925.71 D. \$907.56

15-7

Computing the Cash Price with an End-of-Month Dating Discount

Instead of ordinary dating, some suppliers use **end-of-month dating** (EOM) when granting cash discounts. With this method, you receive a cash discount if you pay within a certain number of days after the end of the month. The full amount is usually due 20 days after the last day for taking the discount. With EOM dating, it is common to grant a 1-month extension on invoices dated on or after the 26th of the month.

Example

Find the cash price.

Home Décor received an invoice from its supplier. The net total for a grandfather clock was \$1,375 and payment terms stated 3/10 EOM. The invoice was dated 9/15. What is the cash price of the clock if Home Décor pays on 10/9?

1. Find the cash discount.

$$\text{Cash Discount} = \text{Net Price} \times \text{Cash-Discount Rate}$$

$$\$1,375 \times 3\% = \$41.25 \text{ cash discount}$$

2. Find the cash price.

$$\text{Cash Price} = \text{Net Price} - \text{Cash Discount}$$

$$\$1,375 - \$41.25 = \$1,333.75 \text{ cash price}$$

Practice

Find the last date to take the discount, the last date to pay the invoice, the cash discount, and the cash price.

	Invoice Date	Terms	Last Date to Take Discount	Last Date to Pay Invoice	Date Paid	Net Price	Cash Discount	Cash Price
1.	Jan. 24	2/10 EOM	a.	b.	Feb. 9	\$ 750.00	c.	d.
2.	Feb. 18	2/15 EOM	a.	b.	Mar. 15	1,200.00	c.	d.
3.	Apr. 21	3/10 EOM	a.	b.	May 11	2,750.00	c.	d.

4. Wholesale Florists sends Bridal Bouquets an invoice for \$395 with payment terms of 3/15 EOM. The invoice is dated 5/15. What is the cash price if Bridal Bouquets pays the invoice on 6/14? What is the cash price if it pays it on 6/16?
5. **Standardized Test Practice** Wholesale Gardening lists maple trees for \$24.95. It offered Landscape King a chain discount of 15 percent less 10 percent. Landscape King ordered 50 maple trees. It received an invoice dated 5/26 with payment terms of 3/15 EOM. What is the cash price if the invoice is paid on July 16?
 A. \$925.71 B. \$954.34 C. \$935.63 D. \$907.56

15 Chapter Review

Discount Mania

By taking advantage of a supplier's trade discounts, chain discounts, and invoice dating discounts, you save money. By doubling or tripling these discounts, you maximize your savings. Let's see how.

1. Your supplier, Gizmos Galore, offers a trade-discount rate of 15 percent on all widgets. Each widget has a list price of \$9.79. What is the net price of your order if you purchase 50 widgets?
2. What is the complement of the trade-discount rate in Problem 1?
3. Gizmos Galore is coming out with a new and improved line of widgets. To make room for its new stock, it's offering a 20/15 chain discount on its current widgets. The widgets cost \$8.79 each. You order 50 of them. What is your final net price?
4. What is the net-price rate of the discounts outlined in Problem 3?
5. What is the SED for Problem 3?
6. What is the discount for Problem 3?
7. You receive an invoice for the order you placed in Problem 3. It is dated 4/27 and has payment terms of 2/10, net 30. If you pay the invoice on May 6, what is your cash price?
8. Instead of 2/10, net 30, the invoice in Problem 7 has payment terms of 2/10 EOM. By what date must you pay the invoice to receive the discount? What is the last day you can pay it?