

Combining Percents

- 2 or more taxes / fees — combine and add together
- A sale and tax — 2 steps :
 1. sale price 1st
 2. calculate tax using the sale price
- Double sales (2 sales) — can NOT add them together
 - 2 steps ! 1st sale, 2nd sale

Ex. A new bike is regularly priced at \$345. If it's on a 25% off sale, calculate the final price including both taxes (GST = 5%, PST = 7%)

Discount : $\overset{\sim}{25\%}$ of \$345
 $0.25 \times 345 = \$86.25$

Sale Price : $\$345 - \$86.25 = \$258.75$ ← Before taxes!

Tax : $5\% + 7\% = 12\%$

$\overset{\sim}{12\%}$ of \$258.75

$0.12 \times \$258.75 = \31.05

Total : $\$258.75 + \$31.05 = \boxed{\$289.80}$

Ex. A store marks down a couch (regular \$1295) for their 30% off everything sale. If you shop before 10am Saturday you save an additional 20%.

a) What is the sale price before tax?

b) Is this the same as 50% off? Explain.

a) 1st discount: 30% of 1295

$$\frac{30}{100} = \frac{?}{1295}$$

$$30 \times 1295 \div 100 = \$388.50$$

$$\text{1st sale: } 1295 - 388.50 = \$906.50$$

2nd discount: 20% of 906.50

$$\frac{20}{100} = \frac{?}{906.50}$$

$$20 \times 906.50 \div 100 = \$181.30$$

$$\text{2nd sale: } 906.50 - 181.30 = \boxed{\$725.20}$$

b) No. Not the same.

- Half of 1295 is \$647.50, which is a lot less than the \$725.50 sale price.
- The 20% is calculated on a smaller amount, so it makes the final sale price higher.