



WARM UP GRADE 8

Mar. 18, 2016



Quiz Tuesday, Mar. 22

1) A three wheeler is on sale for 20% off the regular price of \$1500. What is the sale price?
could I take it a step further...what is the price with tax?



$$\begin{aligned} \text{Amount Discounted} &= \text{Rate} \times \text{Reg Price} \\ &= 0.20 \times 1500 \\ &= \$300 \end{aligned}$$

$$\begin{aligned} \text{Sales Price} &= \text{Reg} - \text{Amount Discount} \\ &= 1500 - 300 \\ &= \$1200 \end{aligned}$$

$$\text{Tax} = 13\% \times 1200 = 156$$

$$\text{Price w tax} = \text{Price} + \text{tax} = 1200 + 156 = \$1356$$

2) A backpack is on sale for 60% off. If the amount discounted is \$16.14, what is the regular price?

$$\text{Amount Discount} = \text{Rate} \times \text{Reg Price}$$

$$16.14 = 0.60 \times R$$

$$\frac{16.14}{0.60} = \frac{0.60 \times R}{0.60}$$

$$\boxed{\$26.90} = R$$

The backpack's regular price was \$26.90

Similar to quiz question

3) The populaon of a village was 26 000 people in the year 2011. Due to very few job opportunies 15% of the people move away in 2012. In 2013 the populaon decreased by 5% that of 2012, what was the populaon at the end of 2013?

$$\text{Original Pop} = 26000$$

Year 2012 15% moved away

Year 2013 5% moved away

$$\begin{aligned} \# \text{ of people moved away in 2012} &= 15\% \text{ of } 26000 \\ &= 0.15 \times 26000 \\ &= 3900 \\ &\text{moved away in 2012} \end{aligned}$$

$$\begin{aligned} \text{New Pop 2012} &= \text{Orig Pop} - \text{Moved away} \\ &= 26000 - 3900 \\ &= 22100 \end{aligned}$$

We have 22 100 people at the end of Year 2012

Year 2013

$$\begin{aligned} \# \text{ of people moved away in 2013} &= 5\% \text{ of Pop 2012} \\ &= 0.05 \times 22100 \end{aligned}$$

$$\begin{aligned} \text{New Population} &= 22100 - \text{left} \\ &= 22100 - 1105 \\ &= 20995 \end{aligned}$$

at the end of 2013 we have 20 995 people in the village

$$8. (i) \text{ a) Discount } \quad 20\% \text{ of } 89.99 \\ 0.2 \times 89.99 \\ 18$$

$$b) \text{ Sale Price} = \text{Reg} - \text{Disc} \\ = 89.99 - 18 \\ = 71.99$$

$$c) \text{ HST } \quad 13\% \text{ of } 71.99 \\ 0.13 \times 71.99 \\ 9.36$$

$$\text{Total Cost} = \text{Price} + \text{tax} \\ 71.99 + 9.36 \\ 81.35$$

$$(ii) \text{ Disc } \quad 45\% \text{ of } 120 \\ 0.45 \times 120 \\ 54$$

$$\text{Sale Price} = \text{Price} - \text{Disc} \\ = 120 - 54 \\ = 66$$

$$\text{HST} \quad 13\% \text{ of } 66 \\ 0.13 \times 66 \\ 8.58$$

$$\text{Total Cost} = \text{Price} + \text{tax} \\ = 66 + 8.58 \\ = 74.58$$

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10.

Choose A 30% off

$$\begin{aligned} \text{Disc } 30\% \text{ of } 25.00 \\ 0.3 \times 25 \\ 7.5 \end{aligned}$$

$$\begin{aligned} \text{Sale Price} &= 25 - 7.50 \\ &= 17.50 \end{aligned}$$

Choose B \$40 for 2 DVD
(or \$20 each)

Choose A is a better deal, it costs less.

$$\begin{aligned} \text{II. Amt of Dec} &= 18.98 - 11.39 \\ &= 7.59 \end{aligned}$$

$$\begin{aligned} \% \text{ Dec} &= \frac{\text{Amt of Dec}}{\text{Orig Amt}} \times 100\% \\ &= \frac{7.59}{18.98} \times 100\% \\ &= 0.40 \times 100\% \\ &= 40\% \end{aligned}$$

b) Sale Price 11.39

$$\begin{aligned} \text{HST} &= 13\% \text{ of } 11.39 \\ &= 0.13 \times 11.39 \\ &= 1.48 \end{aligned}$$

$$\begin{aligned} \text{Total Cost} &= 11.39 + 1.48 \\ &= \$12.87 \end{aligned}$$

$$Q. \frac{1}{2} \text{ of } 30 = \$15$$

$$\begin{array}{l} 1^{st} \text{ Disc} \quad 25\% \text{ of } 30 \\ \quad \quad \quad 0.25 \times 30 \\ \quad \quad \quad 7.50 \end{array}$$

$$\begin{array}{l} \text{Sale Price} \quad 30 - 7.50 \\ \quad \quad \quad 22.50 \end{array}$$

$$\begin{array}{l} 2^{nd} \text{ Disc} \quad 25\% \text{ of } 22.50 \\ \quad \quad \quad 0.25 \times 22.50 \\ \quad \quad \quad 5.63 \end{array}$$

$$\begin{array}{l} \text{New Sale} \\ \text{Price} \quad 22.50 - 5.63 \\ \quad \quad \quad 16.87 \end{array}$$

So NO the T-shirt is not 50% off,
if it was 50% off, it would be \$15
not \$16.87

$$13. \text{ Sale } 20\% \text{ off, Sale Price} = \$35.96$$

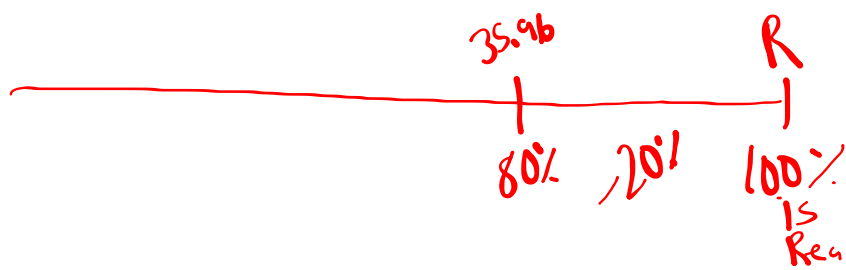
$$\begin{array}{l} \text{Disc } 20\% \text{ of reg} \\ \quad \quad \quad 0.2n \end{array}$$

$$n = \text{reg price}$$

$$\begin{array}{l} \text{Sale Price} = \text{Reg} - \text{Disc} \\ = 1n - 0.2n \\ = 0.8n \end{array}$$

$$\begin{array}{l} 35.96 = 0.8n \\ \frac{35.96}{0.8} = \frac{0.8n}{0.8} \\ 44.95 = n \end{array}$$

$$\begin{array}{l} \text{Sale} \\ \text{Price} = \text{reg} - \text{Disc} \\ = 100\% - 20\% \\ = 80\% \\ \text{of reg} \\ \text{price} \end{array}$$



$$80\% \text{ of } R = 35.96$$

$$0.80R = 35.96$$

$$14. \text{ 13\% Disc} \quad \text{Disc} = 0.13 \times 129.99 \\ = 16.90$$

$$\text{Sale Price} = 129.99 - 16.90 \\ = 113.09$$

$$\text{HST} \quad 13\% \text{ of } 113.09 \\ 0.13 \times 113.09 \\ 14.70$$

Sale

Price
with taxes

$$113.09 + 14.70 \\ 127.79$$

Price without taxes 129.99

It is better to get a 13% discount than it is to have no taxes, because you pay the taxes on a lower amount.

% of reg price = amt of disc

$$15. \text{ 33\% of reg price is } 28.38$$

$$0.33n = 28.38$$

$$\frac{0.33n}{0.33} = \frac{28.38}{0.33}$$

$$n = 86.$$

The regular price was 86.

$$b) \text{ Sale Price} \quad 86 - 28.38 \\ 57.62$$

$$\text{HST} \quad 13\% \text{ of } 57.62 \\ 7.49$$

$$\text{Total Cost} \quad 57.62 + 7.49 \\ 65.11$$

1b. Disc 30% of 75 Customer 1
 0.3×75
 22.50

Sale Price $75 - 22.50$
 52.50

HST 13% of 52.50
 0.13×52.50
 6.83

Total Cost $52.50 + 6.83$
 59.33

Customer 2 - Add tax then find disc

HST 13% of 75
 0.13×75
 9.75

Price with tax $75 + 9.75$
 84.75

Disc 30% of 84.75
 0.3×84.75
 25.43

Sale Price $84.75 - 25.43$
 59.32

The price is the same (1¢ difference)
 but the second way is wrong

17. store A

$$\begin{aligned} \text{Disc } 15\% \text{ of } 45.99 \\ 0.15 \times 45.99 \\ 6.89 \end{aligned}$$

$$\begin{aligned} SP &= \text{Reg} - \text{Disc} \\ &= 45.99 - 6.89 \\ &= 39.10 \end{aligned}$$

Store B

$$\begin{aligned} \text{Disc } 20\% \text{ of } 49.99 \\ 0.2 \times 49.99 \\ 10. \end{aligned}$$

$$\begin{aligned} SP &= \text{Reg} - \text{Disc} \\ &= 49.99 - 10 \\ &= 39.99 \end{aligned}$$

Store A has the better deal, you would save 89¢

Class/Homework

Quiz Tuesday, Mar. 22

Use 13%
tax

Homework pg. 263 # 1-12

1, 3, 4, 6, 7, 8, 9, 10, 11
Reduce, No diagram

35% Disc, Amt of Disc \$42
what is reg price

35% of Reg Pr is Amt of Disc

$$35\% \text{ of } n = 42$$

$$0.35n = 42$$

$$\frac{0.35n}{0.35} = \frac{42}{0.35}$$

$$n = 120$$