

***Grade 10
Essential***

Quiz Debrief

MrF ***Week 4***
22-12-01

**GRADE 10 ESSENTIAL
QUIZ WEEK 4 - 221201**

Name: _____

Date: _____

Weekly quiz. ✓

Closed book. Use your cheat sheet (use mine for now if necessary)

Conversion Tables. Always allowed the conversion tables

Round all decimal answers to the nearest 0.01 unless otherwise indicated

Each individual question is worth two marks

Show work.

You need YOUR OWN for final exam!

→ standard

1. Solve for x:

a. $\frac{5}{12} = \frac{x}{20}$

b. $\frac{8}{12} = \frac{30}{x}$

1. Solve for x:

Solve proportions!

a. $\frac{5}{12} = \frac{x}{20}$

$$\frac{5}{12} \times \frac{x}{20}$$

Cross multiply

$$5 \cdot 20 = 12 \cdot x$$

$$\frac{100}{12} = \frac{12 \cdot x}{12}$$

$$8.33 = \frac{100}{12} = x$$

Check!

$$\frac{5}{12} = 0.416666\checkmark$$

$$\frac{8.33}{20} = 0.4165\checkmark$$

b. $\frac{8}{12} = \frac{30}{x}$

$$\frac{8}{12} \times \frac{30}{x}$$

Cross multiply

$$8x = 12 \cdot 30$$

$$8x = 360$$

$$x = \frac{360}{8} = 45$$

Check

$$8 \cdot 45 = 12 \cdot 30?$$

$$360 = 360?$$

✓ Yes

2. If 5 bananas cost \$12.00, determine how many bananas you can buy for \$20.00

$$\frac{x \text{ bananas}}{\$20} \quad \begin{array}{c} \swarrow \\ \text{---} \\ \searrow \end{array} \quad \frac{5 \text{ bananas}}{\$12}$$

Pay attention
to units

Cross Multiply!

$$12 \cdot x = 5 \cdot 20$$

$$x = \frac{5 \cdot 20}{12} = \frac{100}{12} = 8.3333333$$

$$= 8.33 \text{ bananas!}$$

Check

$$12 \cdot (8.33) \stackrel{?}{=} 5 \cdot 20$$

$$99.96 = 100 \checkmark$$

Yes \checkmark

lol; you would
probably get 8
whole bananas!

3. Convert the units of measure as indicated (use either method)

(a) $8.3 \text{ km} = \underline{\hspace{2cm}} \text{ mi}$ $8.3 \cancel{\text{km}} \cdot \left(\frac{0.6214 \text{ mi}}{1 \cancel{\text{km}}} \right) = 5.16 \underline{\underline{\text{mi}}}$

$\frac{x \text{ mi}}{8.3 \cancel{\text{km}}} = \frac{0.6214 \text{ mi}}{1 \cancel{\text{km}}}$; $x = \frac{8.3 \cdot 0.6214}{1} = 5.16 \text{ miles}$

(b) $44 \text{ lb} = \underline{\hspace{2cm}} \text{ kg}$ $44 \cancel{\text{lb}} \cdot \left(\frac{1 \cancel{\text{kg}}}{2.205 \cancel{\text{lb}}} \right) = 19.95 \underline{\underline{\text{kg}}}$

$44 / 2.205 = 19.9546$

Sounds about right! A kg is heavier than a lb!

Converting between systems (Imperial ↔ Metric [SI])

Conversions SI to Non-SI Length		
1 metre [m]	=	3.2808 feet [ft]
1 metre [m]	=	39.37 inches [in]
<u>1 kilometre [km]</u>	=	<u>0.6214 miles [mi]</u>
1 mile [mi]	=	1.609 km
1 inch [in]	=	2.54 cm

Conversions Non-SI Imperial – Mass		
<u>1 kilogram kg</u>	=	<u>2.205 pounds lb</u>
1 tonne	=	1.1 ton

4. Convert as indicated

a. 58 inches = 4 ft 10 in

← whole feet

$$58 \cancel{\text{in}} \cdot \frac{1 \cancel{\text{ft}}}{12 \cancel{\text{in}}} = \frac{58}{12} = 4.8333333 \text{ ft}$$

4 ft = 48 in ; so 8 inches left over

Check!

$$4 \cdot 12 + 10 = 58 \checkmark$$

$$\begin{array}{r} 4 \text{ R}10 \\ 12 \overline{) 58} \\ \underline{-48} \\ 10 \end{array}$$

b. 15 yards = _____ ft

$$15 \cancel{\text{yd}} \cdot \left(\frac{3 \cancel{\text{ft}}}{1 \cancel{\text{yd}}} \right) = 45 \text{ ft}$$

Made a lot more sense

c. 58 in = _____ m

$$58 \cancel{\text{in}} \cdot \left(\frac{1 \cancel{\text{m}}}{39.37 \cancel{\text{in}}} \right) = 1.47 \text{ m}$$

Sounds about right this way

$$58 \overline{) 39.37} = 1.4732$$

Conversions Non-SI (Imperial) for Length		
1 mile [mi]	=	1,760 yards [yd]
1 yard [yd]	=	3 feet [ft]
1 mile [mi]	=	5280 ft
1 foot [ft]	=	12 inches [in]
1 yard [yd]	=	36 inches [in]

Conversions SI to Non-SI Length		
1 metre [m]	=	3.2808 feet [ft]
1 metre [m]	=	39.37 inches [in]
1 kilometre [km]	=	0.6214 miles [mi]



5. Add or subtract as indicated:

a.

$$\begin{array}{r}
 1 \text{ ft} \\
 4 \text{ ft } 8 \text{ in} \\
 + 2 \text{ ft } 10 \text{ in} \\
 \hline
 \end{array}$$

~~18 in~~ → 1 ft 6 in

7 ft 6 in

b.

$$\begin{array}{r}
 1 \text{ lb or } 16 \text{ oz} \\
 8 \text{ oz} \rightarrow 19 \text{ oz} \\
 2 \text{ lb } 8 \text{ oz} \\
 - 3 \text{ lb } 8 \text{ oz} \\
 \hline
 5 \text{ lb } 11 \text{ oz}
 \end{array}$$

↑↑ Check

Careful!
 Borrows and carries
 are not
 always 10's

c. 3 hr 52 min + 1 hr 13 min =

5 hr 05 min

$$\begin{array}{r}
 1 \\
 3:52 \\
 + 1:13 \\
 \hline
 5:05
 \end{array}$$

~~65 min~~

1 hr 5 min

6. Jason comes to work at 08:45 and leaves at 17:00. He gets a 45 min lunch break. Determine the amount of time for which he gets paid.

$$\begin{array}{r} \text{Finish} \quad 16:60 \\ \quad \quad \quad \cancel{17:00} \\ \text{Start} \quad - 8:45 \\ \hline \quad \quad \quad 7:75 \text{ at work} \\ \quad \quad \quad \cancel{8:15} \\ \quad \quad \quad - 0:45 \text{ lunch} \\ \hline \quad \quad \quad 7:30 \end{array}$$

Jason gets paid !!
for 7hr 30min..

7. Destiny gets paid \$16.25 per hour. She gets overtime pay (O/T) after 40 hours in any week. Overtime pay is 'time and a half'. Calculate Destiny's **Gross** pay for the week. Her work schedule hours this week are as follows:

Mon	Tues	Wed	Thur	Fri	Sat	Sun	Total
8	10	8	7	11	3	0	= 47

TOTAL Hrs for week 47. 40 Reg + 7 o/t hours

$$\text{Reg Pay} = 40 \text{ hr} \cdot \cancel{\$16.25/\text{hr}} = \$650.00$$

$$\text{O/T Pay} = 7 \text{ hr} \cdot (\cancel{\$16.25/\text{hr}} \cdot 1.5) = 170.63$$

$$\text{Total } \underline{\underline{\$820.63}}$$

Sounds about right!

8. Mike Miser is saving up for a new game. He saves \$2 the first week. Each week after that he saves twice as much as he saved the week before. If this pattern continues, how much will he have saved in 6 weeks?

Lots of ways to solve this!!

use a table, organizer

Wk	1	2	3	4	5	6
Weekly Saving	2	4	8	16	32	64
Total Savings	2	6	14	30	62	126

Mike will have saved \$126 in the six weeks

BONUS QUESTIONS (extra marks if you need them)

9. MrF sends a student to Timmies with \$50 to buy some donuts. He wants 30 donuts, but he wants only chocolate or maple. Chocolate donuts cost \$2 each and maple cost \$3 each. How many of each donut will the student get if she spends the entire \$50.

# Choc	# MAPLE	Total Donuts	Total Cost
15	15	30	$15 \cdot 2 + 15 \cdot 3 = \75 WRONG
20?	10	= 30	$20 \cdot 2 + 10 \cdot 3 = 40 + 30 = \70 BZZZT! WRONG
25?	5	= 30	$25 \cdot 2 + 5 \cdot 3 = \65 ?? what
30	0	= 30	$30 \cdot 2 + 0 \cdot 3 = \60

what!! No solution!

The stupid math teacher did not give enough money for 30 donuts!

Ahh! I love these! A few ways to solve, Guess & check?

Sometimes there is **NO SOLUTION**

10. Your final exam is six weeks away! Calculate how many seconds remain until your final exam.

$$6 \cancel{\text{ wk}} \cdot \frac{7 \cancel{\text{ days}}}{1 \cancel{\text{ wk}}} \cdot \frac{24 \cancel{\text{ hr}}}{1 \cancel{\text{ day}}} \cdot \frac{60 \cancel{\text{ min}}}{1 \cancel{\text{ hr}}} \cdot \frac{60 \text{ Sec}}{1 \cancel{\text{ min}}}$$

$$= 6 \cdot 7 \cdot 24 \cdot 60 \cdot 60 =$$

3,628,800 seconds

Only three million, six hundred twenty eight thousand, eight hundred seconds left!





LOAD CLEAR !

