



Warm Up Grade 8



TEST Wednesday

Very similar to test questions

a) Which is a better deal? Show work

16.50 / 30 marker  
 15 markers for \$8.25 or 10 markers for \$5.20  
 $\div 15$   $\$8.25 / 15 \text{ markers}$   
 $\$0.55 / 1 \text{ marker}$

15.60 / 30 markers  
 $\div 10$   $\$5.20 / 10 \text{ markers}$   
 $\$0.52 / 1 \text{ Marker}$   
 Better

b) Jim can type 22 words in 20 seconds then how many can he type in 1 minute?

$\times 3$   $22 \text{ words} / 20 \text{ sec}$   
 $66 \text{ word} / 60 \text{ sec}$   
 $66 \text{ words} / \text{min}$

2) Express each as an unit rate

a) Kim says yes 42 times in 30 seconds

$84 \text{ times} / \text{min}$

or  $1.4 \text{ times} / \text{sec}$

b) A student made \$61.50 in 5 hours

$\$12.30 / \text{hr}$

3) a) 12:33:3 to  $\frac{4}{11} : \frac{1}{11}$   
 $\div 3$

fix this

b)  $\frac{24}{40}$  is  $\frac{15}{25}$   
 $\div 5$   
 Simplify  
 $\frac{24}{40} = \frac{3}{5}$   
 $\times 8$

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# 14 b)

A

$$12.99 / 3.6 \text{ kg}$$

$$\div 3.6 \quad \div 3.6$$

$$\$3.61 / \text{kg}$$

B

$$\$35.99 / 18.1 \text{ kg}$$

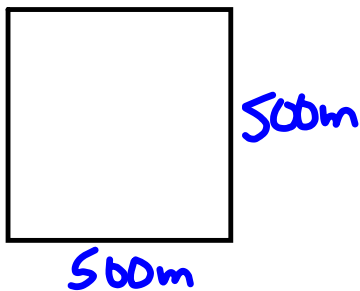
$$\div 18.1 \quad \div 18.1$$

$$\$2.21 / \text{kg}$$

Better  
deal  
money-wise

d) Might want more dog food

16.



$$\begin{aligned} A &= L \times W \\ &= 500 \times 500 \\ &= 250\,000 \text{ m}^2 \end{aligned}$$

$$2.5 \text{ kg} / 1200 \text{ m}^2 = \underline{\hspace{1cm}} \text{ kg} / 250\,000 \text{ m}^2$$

can take to a unit rate

$$\begin{aligned} &2.5 \text{ kg} / 1200 \text{ m}^2 \\ &\text{divide by 1200} \quad \text{divide by 1200} \\ &= 0.002803 \text{ kg} / \text{m}^2 \end{aligned}$$

$$\begin{aligned} &= 0.002803 \text{ kg} / \text{m}^2 \\ &\text{x by 250 000} \quad \text{x by 250 000} \\ &= 520.803 \text{ kg} / 250\,000 \text{ m}^2 \end{aligned}$$

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12. a) \$8.4 for 8 hour  
 $\div 8 \quad \div 8$ 

\$10.50/hr

b) for 35h

 $10.50 \times 35$   
\$367.5013. a) \$4.80 for 400g  
 $\div 4 \quad \div 4$ 

1.20 for 100g

b) 250g

$$\begin{array}{r} 1.20 \\ \times 2.5 \\ \hline \end{array}$$

$$\begin{array}{r} 100g \\ \times 2.5 \\ \hline \end{array}$$

\$3.00 for 250g

c) 1kg = 1000g

$$\begin{array}{r} 1.20 \\ \times 10 \end{array} \text{ for } 100g = \underline{\quad\quad\quad} \text{ for } 1000g$$

$$\begin{array}{r} 1.20 \\ \times 10 \\ \hline \end{array} = \$12.00$$

d) \$18

$$\begin{array}{r} \$12 \\ 3 \\ 3 \\ \hline \$18 \end{array}$$

$$\begin{array}{l} \rightarrow 1000g \\ \rightarrow 250g \\ \rightarrow 250g \\ 1500g \\ \text{or } 1.5kg \end{array}$$

14  
 ☺ a)  $\frac{109 \text{ km}}{\text{hr}}$

$$109 \text{ km} = \frac{109\,000 \text{ m}}{1 \text{ hr} = 3600 \text{ s}}$$

1 hr  
 $60 \times 60 = 3600 \text{ sec}$

$$30.3 \text{ m/s}$$

b)  $\frac{50 \text{ km}}{\text{hr}} = \frac{50\,000 \text{ m}}{3600 \text{ s}} = 13.9 \text{ m/s}$

15. a)  $\frac{40 \text{ m}}{\text{s}} \times \frac{3600 \text{ s}}{\text{hr}} = \frac{144\,000 \text{ m}}{\text{hr}} = 144 \text{ km/hr}$

b)  $\frac{1.5 \text{ m}}{\text{s}} \times \frac{3600 \text{ s}}{\text{hr}} = \frac{5400 \text{ m}}{\text{hr}} = 5.4 \text{ km/hr}$

16. 1 hr  $\rightarrow$  25 km  
😊

b) Average speed  
25 km/hr

17. a)  $\$ : \pounds = \$ : \pounds$   
 $2.5 : 1 = \underline{\hspace{1cm}} : 20$   
 $\times 20 \quad \times 20 \quad \$50$

$\$50$  Can for  $\pounds 20$

b)  $\$ : \pounds = \$ : \pounds$   
 $2.5 : 1 = 30 : \underline{\hspace{1cm}}$   
 $5 : 2 = 30 : \underline{12}$   
 $\times 6 \quad \times 6$

A  $\$30$  Can gift has a value of 12  $\pounds$

18. Eyes: time  
 $225 : 1 \text{ hr}$   
 $225 : 60 \text{ min} = \underline{\hspace{1cm}} : 15 \text{ min}$   
 $\div 4 \quad \div 4 \quad 56.25$

b)  $225 : 60 \text{ min} = \underline{\hspace{1cm}} : 1 \text{ min}$   
 $\div 60 \quad \div 60 \quad 3.75$   
 $= \underline{1.875} : \frac{1}{2} \text{ min}$   
 $\div 2 \quad \div 2$   
 $\text{in } 30 \text{ sec}$

Assumptions  
 - constantly working at the same pace.

pg 308 #1, #2, #3, #4, #5a, #7, #11, #12, #20

$$1a) 0.65 = \frac{65}{100} = \frac{13}{20} = 65\%$$

$$b) 0.0069 = \frac{69}{10000} = 0.69\%$$

$$c) 0.0375 = \frac{375}{10000} = \frac{3}{80} = 3.75\%$$

$$d) 0.9825 = \frac{9825}{10000} = \frac{393}{400} = 98.25\%$$

$$2) \text{ Connor } \frac{21}{24} = 0.875 = 87.5\% \quad \text{Rose } 83.\bar{3}\%$$

↑  
higher %  
so better mark

$$3) a) 38\% = \frac{38}{100} = \frac{19}{50} = 0.38$$

$$b) 93.75\% = \frac{93.75}{100} = \frac{9375}{10000} = \frac{15}{16} = 0.9375$$

$$c) 0.79\% = \frac{0.79}{100} = \frac{79}{10000} = 0.0079$$

$$d) 0.2\% = \frac{0.2}{100} = \frac{2}{1000} = \frac{1}{500} = 0.002$$

$$4) a) 160\% = 1.6$$

$$b) 310\% = 3.1$$

$$c) 0.27\% = 0.0027$$

$$d) 0.9\% = 0.009$$

$$5a) 166\% \text{ of } 26988$$

$$1.66 \times 26988$$

$$44800.08$$

$$\approx 44800$$

44800 people  
attended the grey cup

pg 308 #1, #2, #3, #4, #5a, #7, #11, #12, #20

7)  $60\%$  of  $n = 39$

$$\frac{0.6}{0.6} \times n = \frac{39}{0.6}$$

$$n = 65$$

the total for the test  
was 65  
so Wei made  $\frac{39}{65}$  of test

11) Save \$20 Sales Price = \$49.99

a) Original Price =  $49.99 + 20$   
 $= \$69.99$

b) % decrease =  $\frac{\text{Difference}}{\text{Original}} \times 100\%$

$$= \frac{20}{69.99} \times 100\%$$

$$0.28576 \times 100$$

$$= 28.576\%$$

$$\approx 29\%$$

$$\begin{aligned} 12) \text{ Amount Discount} &= \text{Original} \times \text{Rate} \\ &= 89.99 \times 25\% \\ &= 89.99 \times 0.25 \\ &= \$22.50 \end{aligned}$$

$$\begin{aligned} \text{Sales Price} &= \text{Original} - \text{Discount Amount} \\ &= \$89.99 - \$22.50 \\ &= \$67.49 \end{aligned}$$

$$\begin{aligned} \text{Tax} &= 13\% \text{ of Price} \\ &= 0.13 \times 67.49 \\ &= 8.7737 \\ &= \$8.77 \end{aligned}$$

$$\begin{aligned} \text{Cost w tax} &= \text{Sales Price} + \text{tax} \\ &= 67.49 + 8.77 \\ &= \$76.26 \end{aligned}$$

$$\begin{aligned} 20) a) 3:7 &= h:70 \\ \times 10 & \quad \times 10 \\ h &= 30 \end{aligned}$$

$$\begin{aligned} b) 3:8 &= 15:r \\ \times 5 & \quad \times 5 \\ r &= 40 \end{aligned}$$

$$\begin{aligned} c) 5:42 &= 5:b \\ \times 7 & \quad \times 7 \\ s &= 35 \end{aligned}$$

$$\begin{aligned} d) 84:t:96 &= 21:27:24 \\ \div 3 & \quad \div 3 \\ &= 7:9:8 \\ \times 12 & \quad \times 12 \\ t &= 9 \times 12 \\ &= 108 \end{aligned}$$

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5 a) \$399 for 3 weeks  
 \$133 for 1 week

b) 680 km in 8 hours  
 $\div 8$   $\div 8$

85 km in hours

c) 12 bottles of juice for \$3.49  
 $\div 12$   $\div 12$

\$0.29 / bottle

d) 3 cans of soup for \$0.99  
 $\div 3$   $\div 3$

\$0.33 / can

e) \$24.00 for 3h or \$36.00 for 4h  
 \$8/hr  $\div 3$   $\div 4$   
 \$9/hr

\$36 for 4h is greater

b) \$4.50 for 6 muffins OR \$6.00 for 1 dozen

\$9.00 for 12 muffins  
 (1 dozen)

\$4.50 for 6 is greater


c) \$0.99 for 250ml OR \$3.59 for 1L

$\times 4$   $\times 4$

\$3.96 for 1000 ml  
 or 1L

\$0.99 for 250ml is greater



7.  \$1.49 for 110ml OR 4.29 for 500ml  
 $\times 4$

5.96 for 440ml

so 4.29 for 500ml is a better deal

b) The smaller cost less and she might not have needed 500ml

c) Depending on what the soup was for and how much they needed. - -

8. 5 for 1.99 OR 8 for 2.99  
 $\div 5$   $\div 8$

1 for 0.40

1 for 0.37

Better Buy

b) 2L for 4.49 OR 1L for 2.89  
 $\times 2$

2L for 5.78

Better buy

c) 100ml for 1.79 OR 150ml for 2.19  
 $\times 1.5$   $\times 1.5$

150ml for 2.69

Better Deal

d) 500g for 3.49 OR 125g for 0.79  
 $\times 4$   $\times 4$

500g for 3.16

Better Deal

pg 364

9 a)  $52.5 \text{ in } 6 \text{ hours}$   
 $\div 6 \quad \div 6$   
 $87.5 \text{ km in } 1 \text{ hour}$

b) The distance is how far you expect him to go in 1 hour

c)  $52.5 \text{ in } 6 \text{ hours}$   
 $87.5 \quad 1 \text{ hour}$   
 $87.5 \quad 1 \text{ hour}$   


---

 $700 \text{ km} \quad 8 \text{ hour}$

You would expect it to take 8 hours to travel 700 km

10

$60 \text{ km in } 3 \text{ h}$	$68 \text{ km in } 4 \text{ hr}$	$70 \text{ km in } 5 \text{ h}$
$20 \text{ km/hr}$	$17 \text{ km/hr}$	$14 \text{ km/hr}$

Greatest average speed  $20 \text{ km/hr}$

11.

😊 \$370 in one week is more than  
\$315 in one week, so the  
lifeguard job pays more per week  
(also works more hours)

b) 370 in 40 hour      \$315 in 35 hour  
\$9.25 / hr              \$9 / hr

justify answer - almost any  
answer will be correct if you justify

12. 114 points in 9 games

$\div 9$

$\div 9$

12.7

in 1 game

Average 12.7 pts / game

b) 12.7 in 1 game  $\times 24$  =  $\frac{\quad}{304.8}$  : 24 games  
or 305 pts.

13. 118.1 cm in 24h =  $\frac{\quad}{4.9}$  : 1 hr  
 $\div 24$                $\div 24$               4.9

4.9 cm/hr

14  
Brand A  
12.99 for 3.6 kg  
 $\times 4$   $\times 4$   
\$52 14.4 kg

Brand B  
\$39.99 for 18.1 kg

Brand B is a better buy.

b) Brand A  
12.99 for 3.6 kg  
 $\div 3.6$   $\div 3.6$   
3.61 for 1 kg

39.99 for 18.1 kg  
 $\div 18.1$   $\div 18.1$   
2.21 for 1 kg

c) Brand B is definitely a better buy.

d)  $\rightarrow$  Might not have enough  
 $\rightarrow$  Might not want that big bag  
 $\rightarrow$  Might only have a small dog  
 $\rightarrow$  Brand B might not be as nutritious.

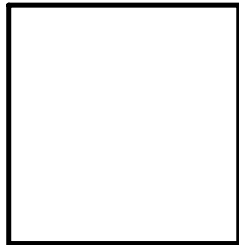
15  
 a) i) Apple 60 cal  
 Cycling 216 cal / hour  
 $\div 4 \quad \div 4$   
 54 cal in 15 min

ii) 2 Slices of bread 140 cal  
 Walking 270 cal / hour  
 $\div 2 \quad \div 2$   
 135 cal 30 min

b) ice cream + doughnut  
 $290 + 204 = 494 \text{ cal}$

Swimming burns cal the quickest  
 Walking for 2 hours or cycling  
 for 2 hours would burn the cal

16.



500m

500m

$$\begin{aligned}
 A &= L \times W \\
 &= 500 \times 500 \\
 &= 250\,000 \text{ m}^2
 \end{aligned}$$

$$\begin{aligned}
 1 \text{ bag} &\rightarrow 1200 \text{ m}^2 \\
 100 \text{ bags} &\rightarrow 120\,000 \text{ m}^2 \\
 200 \text{ bags} &\rightarrow 240\,000 \text{ m}^2 \\
 8 \text{ bags} &\rightarrow 9\,600 \text{ m}^2 \quad (8 \times 1200)
 \end{aligned}$$

$$\begin{aligned}
 208 \text{ bags} &\rightarrow 249\,600 \text{ m}^2 \\
 \text{Approx } 208 \text{ bags are needed}
 \end{aligned}$$

$$17. a) \frac{40}{5}$$

Earn \$40 for 5 hours worked

$$b) \frac{1.75}{100}, \text{ pay } \$1.75 \text{ for } 100\text{g of cheese}$$

18.

Type of Car	Fuel Consumption	Fuel Consumption for 100 km
Toyota Echo	26.8L / 400 km	6.7 L / 100 km
Ford Focus	23.0 L / 250 km	9.2 L / 100 km
Honda Civic	11.25 L / 150 km	7.5 L / 100 km
Saturn Ion	33.25L / 350 km	9.5 L / 100 km
Hyundai Accent	16.2 L / 200 km	8.1 L / 100 km

b) Least Fuel Efficient

$$\begin{array}{r} \text{Saturn } 9.5 \text{ L} / 100 \text{ km} \\ \times 5 \qquad \times 5 \\ \hline 47.5 \text{ L} / 500 \text{ km} \end{array}$$

$$\begin{array}{r} \text{most} \\ \text{Toyota } 6.7 \text{ L} / 100 \text{ km} \\ \times 5 \qquad \times 5 \\ \hline 33.5 \text{ L} / 500 \text{ km} \end{array}$$

## TEST OUTLINE

\_\_\_\_\_, TEST on Chapter 5

Part 1) 5 MC

Part 2) 8 short response

#1) Find the missing number in each equivalent ratio ex)  $25 : 5 = \underline{\hspace{1cm}} : 7$

#2) Mentally find % of      Ex) 200% of 300

# 3 & 4) Sales tax & Discount

#5 & 8) Express as a unit rate (Second term must be 1) Ex) Earn \$90 in 3 hours then \$30 in 1 Hour

#6 Given a picture of shapes write the ratios indicated

# 7) Compare ratios



## Examples of test questions

1) 35% of number is 31.5, what is the number?

2) Find the following

a) 25% of 40

$$\downarrow$$

$$\underline{0.25 \times 40}$$

b) 34% of 68

$\downarrow$

d) 0.5% of 120

$\downarrow$

d) 140% of 320

$\downarrow$

3) a) find the missing blanks (Show work...hint sometimes you need to reduce)

a)  $34:18 = 17: \underline{\hspace{1cm}}$

b)  $9:4 = 90: \underline{\hspace{1cm}}$

c)  $25:30 = \underline{\hspace{1cm}}: 24$

4) Express the following as a unit rate

a) A truck drives 240 km in 2 hours

$$\div 2 \downarrow \quad 120 \quad / 1 \text{ hr} \quad \downarrow \div 2$$

b) A women types 80 word is 20 seconds

$\div 20$

$$\downarrow \quad 1 \text{ Sec} \quad \downarrow \div 20$$

5) The population of Nova Scotia is about 1 000 000 and the population of Canada is about 39 000 000. About what percent of the population of Canada is Nova Scotia?

$$\frac{\text{Part}}{\text{Total}} = \frac{\text{NS}}{\text{Canada}} = \frac{1\,000\,000}{39\,000\,000} = \text{Dec} = \%$$

Top  
Both  
Fraction

6) Find each percent (Show work Mentally)

a) 500% of 200

b) 30% of 140

7) You have \$60 saved in your piggy bank. You want to buy a new shirt that is \$125. The shirt is reduced by 20%. There is 15% tax.

a) Find the discount and the sales price

Discount

sales price

b) Find the sales tax on the sales price and the total price with tax

Sales tax amount

Cost with tax

c) Do you have enough money to buy the shirt?

8) Kim & John wrote 2 test. Kim made 14 out of 21 on the test and John made 32 out of 48. Kim says she did better, is this true? SHOW WORK

9) Jim completed 30% of his homework which is 12 questions.

a) What is his total amount of homework questions did his teacher assign?

b) How many questions does he have left to do?

# Class/Homework

Page 308 (Use 15% tax)

#14a (i to iv), 15, 17(a,b), 18(ab), 20(abcd), 21abcd, #24, #25, #27, #28, #30, #31, #32

page 312 # 7, 8, 9

Test on Unit 5 Percent, Ratio and Rates

TOMORROW April 7