

# Mental Math

## Grade 10 Essential Mathematics (20S)

F-1

### Unit F: Consumer Decisions

General Questions	Answers
1. A checkerboard has 8 squares along its length and 8 squares along its width. How many squares altogether are on the board?	64
2. The squares on a checkerboard alternate between black and red. How many squares are black?	32
3. You are buying coffee for your family of 6. Each cup of coffee costs \$1.50. How much will it cost in total?	\$9
4. The shortest sentence that contains all the letters of the alphabet is "The quick brown fox jumps over the lazy dog." Write a fraction comparing the number of words with 'o' to the total number of words in the sentence.	$\frac{4}{9}$
5. If 10% of 45 is 4.5, what is 20% of 90?	18
Unit Questions	
6. A box of All-Bran bars has 6 cereal bars with a total mass of 180 g. What is the mass of each bar?	30 g
7. A box contains 10 crunchy granola bars with 2 bars per pouch and a total mass of 230 g. What is the mass of one pouch?	46 g
8. The granola bar nutrition facts state that one pouch provides 3 g of fibre, which represents 12% of the recommended daily value. How many grams of fibre are recommended daily?	25 g
Other Questions	
9.	
10.	

# Mental Math

## Grade 10 Essential Mathematics (20S)

F-2

### Unit F: Consumer Decisions

#### General Questions

1. What is the complementary angle of  $79^\circ$ ?
2. You run every second day. You run 3.5 miles on Tuesday, 4 miles on Thursday, and 4.5 miles on Saturday. Which days will you run next week?
3. How far will you run each of those days if you continue the pattern?
4. Solve for  $e$ :  $\frac{1}{2} = \frac{4}{e}$
5. Your workday is supposed to be from 8:30 to 4:30. You arrive at work at 7:54 and leave at 4:23. What is the late penalty for your workday?

#### Answers

$11^\circ$

Monday,  
Wednesday,  
Friday

5 miles,  
5.5 miles,  
6 miles

8

15 minutes

#### Unit Questions

6. Estimate the unit price per pouch for granola bars that are selling at 5 pouches for \$1.98.
7. Which is a better buy for sugar, a 10 kg bag for \$12.97 or a 2 kg bag for \$1.97?
8. Estimate the unit price for a 150 g can of stacked potato chips selling for \$2.99.

$\approx \$0.40$

2 kg bag for  
\$1.97

$\approx \$0.02$  per  
gram

#### Other Questions

9.

10.

# Mental Math

## Grade 10 Essential Mathematics (20S)

F-3

### Unit F: Consumer Decisions

General Questions	Answers
1. Linden loves milkshakes. He gets to choose from two chocolate milkshakes. One fills the glass $\frac{7}{9}$ full; the other fills the glass $\frac{2}{3}$ full. Which will he choose?	$\frac{7}{9}$
2. You are at a bake sale. You want to buy a peanut butter cookie. If the whole plate of 16 cookies costs \$3.20, how much will you pay for one cookie?	\$0.20
3. Think of a clock. How many degrees does the minute hand move between 17:30 and 18:00?	180°
4. Vertically opposite angles are _____.	equal or the same measure
5. Writers are paid by piecework. Jill Jackson is paid \$80 for every children's story she writes and \$50 for every poem she writes. Over the past 6 months she has written 4 children's stories and 6 poems. How much money was she paid?	\$620
Unit Questions	
6. How much is a 10% discount on a \$1250.00 TV?	\$125.00
7. How much is a 15% tip on a \$24.00 bill?	\$3.60
8. How much is 2% interest on a \$3600.00 loan?	\$72.00
Other Questions	
9.	
10.	

# Mental Math

## Grade 10 Essential Mathematics (20S)

F-4

### Unit F: Consumer Decisions

#### General Questions

1. Find 10% of 430.
2. Calculate:  $20 + 80$
3. Calculate:  $5 \times 30$
4. You have \$10.00. You spent \$2.60 on candy. How much do you have left?
5. Which is larger:  $\frac{1}{9}$  or  $\frac{1}{11}$ ?

#### Answers

43

100

150

\$7.40

$\frac{1}{9}$

#### Unit Questions

6. What is the sale price of a \$1200 TV with a 10% discount?
7. What is the sale price of a \$100 shirt with a 25% discount?
8. What is the total of a \$24 dinner with a 15% tip added?

\$1080

\$75

\$27.60

#### Other Questions

9.

10.

# Mental Math

## Grade 10 Essential Mathematics (20S)

F-5

### Unit F: Consumer Decisions

General Questions	Answers
1. You are making banana bread but only need to make half the recipe. The recipe calls for $\frac{1}{2}$ cup of sugar. How much sugar will you use to make half the recipe?	$\frac{1}{4}$ cup
2. One-quarter of the Grade 10 students in a school are going to the divisional track meet. There are 120 Grade 10 students in the school. How many are going to the track meet?	30
3. At a car wash, Doug is paid \$5 per car he washes. Doug washes 20 cars during his shift. How much money will he get paid?	\$100
4. Which of the following fractions are equivalent? $\frac{4}{8}$ $\frac{5}{12}$ $\frac{7}{14}$ $\frac{9}{16}$	$\frac{4}{8}$ and $\frac{7}{14}$
5. If 100 cm of snow is equivalent to 50 mm of water, 150 cm of snow is equivalent to how much water?	75 mm
Unit Questions	
6. You receive \$11.00 per hour and are offered a raise to \$12.10 per hour. What is the amount of increase per hour?	\$1.10
7. You receive \$11.00 per hour and are offered a raise to \$12.10 per hour. What is the percent increase per hour?	10%
8. Socks regularly priced at \$8.00 are on sale for \$6.00. What percent discount is being offered?	25%
Other Questions	
9.	
10.	

# Mental Math

## Grade 10 Essential Mathematics (20S)

F-6

### Unit F: Consumer Decisions

#### General Questions

1. You are visiting your grandparents in Toronto with your two brothers. Your parents send a cheque for the three of you to split. If the cheque is for \$150, how much will each of you get?
2. Solve for  $n$ :  $4n - 3 = 2 + 19$
3. At the store, you compare the price of two hand lotions. The lemon lotion is \$3.00 for a 60 mL bottle. The vanilla lotion is \$6.00 for a 100 mL bottle. Which is the better deal (per mL)?
4. What is the supplementary angle of  $68^\circ$ ?
5. Which metric unit would be the best to describe the distance from Canada to Mexico?

#### Answers

\$50

6

lemon lotion

$112^\circ$

kilometres

#### Unit Questions

6. At a garage sale where costume jewelry is sold, a sign says, "Buy 1 for a dime or 2 for a quarter." What is the better deal?
7. Clothing store A offers "Buy 1, get the second one at half price" for ties regularly priced at \$50.00. Store B offers the same ties for \$40.00 each. What is the best price for 2 ties?
8. Which sales promotion is better, 3 CDs for \$20 or 5 CDs for \$30?

1 for a dime

\$75.00 at  
store A

5 CDs for  
\$30

#### Other Questions

9.

10.

# Mental Math

## Grade 10 Essential Mathematics (20S)

F-7

### Unit F: Consumer Decisions

General Questions	Answers
1. What is the area of a triangle with a base of 2 m and a height of 5 m?	5 m <sup>2</sup>
2. You work 40 hours per week and are paid \$15 per hour. What is your gross pay for the year?	\$31,200
3. A map of Winnipeg is drawn to scale so that 1 cm = 5 km. If Winnipeg is 25 km from east to west, what will be the distance on the map?	5 cm
4. You changed your cell phone plan and saved \$12 a month. How much do you save in one year?	\$144
5. You want to watch a movie that is 145 minutes long but you have to leave the house in 2 hours. Do you have enough time to watch the movie before leaving the house?	No
Unit Questions	
6. A bank buys \$1.00 USD for \$1.20 CA. How many Canadian dollars will you get in exchange for \$50 American?	\$60
7. A bank buys \$1.00 Australian for \$0.78 CA. How many Canadian dollars will you get in exchange for \$50 Australian?	\$39
8. A bank buys 1 British Pound for \$1.74 CA. How many Canadian dollars will you get for 200 British Pounds?	\$348
Other Questions	
9.	
10.	

# Mental Math

## Grade 10 Essential Mathematics (20S)

F-8

### Unit F: Consumer Decisions

#### General Questions

1. If you have 5 quarters, 2 dimes, and 1 nickel, how much money do you have?
2. How many minutes in 2.25 hours?
3. Emma is 60 inches tall. What is her height in feet?
4. Which costs less per bottle: 3 bottles of pop for \$3.99 or 1 bottle of pop for \$1.50?
5. Write two equivalent fractions to  $\frac{12}{14}$ .

#### Answers

\$1.50

135 minutes

5 feet

3 bottles for  
\$3.99

$\frac{6}{7}$  and  $\frac{18}{21}$

#### Unit Questions

6. A bank buys \$1.00 USD for \$1.26 CA. How many Canadian dollars will you get in exchange for \$200 American?
7. A bank sells \$1.00 USD for \$1.26 CA. Estimate how many American dollars you will get for \$125 Canadian.
8. A bank sells \$1.00 USD for \$1.26 CA. Estimate how many American dollars you will get for \$500 Canadian.

\$252

≈ \$100 USD

≈ \$400 USD

#### Other Questions

9.

10.