

# Mental Math

G-1

## Grade 12 Essential Mathematics (40S)

### Unit G: Precision Measurement

### Specific Learning Outcome: 12.E5.P.1

#### General Questions

- Suzanna scores  $\frac{26}{75}$  on her World Issues test. Estimate the percent score Suzanna receives on this test.
- What percentile rank is also called the median?
- $7'2'' = \underline{\hspace{2cm}}$  inches
- How many  $\text{mm}^2$  are equal to  $26 \text{ cm}^2$ ?
- There are 15 students missing from a class of 50 students. Write this as a fraction in lowest terms.

#### Answers

33.3%

50th

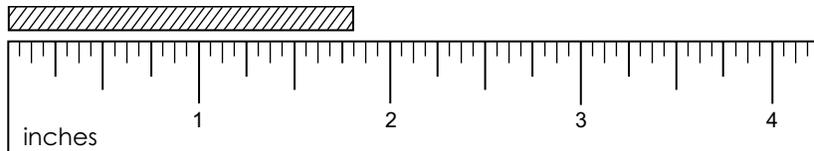
86 inches

$2600 \text{ mm}^2$

$\frac{3}{10}$

#### Unit Questions

Use the following diagram to answer questions 6 and 7.



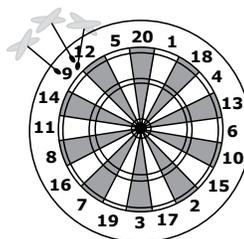
- Measure the length of the string, precise to the nearest  $\frac{1}{4}$  inch.

$1 \frac{3}{4}$  inches

- Measure the length of the string, precise to the nearest  $\frac{1}{16}$  inch.

$1 \frac{13}{16}$  inches

- Arnaud is playing darts and he is aiming for the bullseye (centre circle). Look at his arrangement of darts and state whether Arnaud has good accuracy, good precision, or both.



Bad accuracy but good precision

#### Other Questions

9.

10.

# Mental Math

G-2

## Grade 12 Essential Mathematics (40S)

Unit G: Precision Measurement

Specific Learning Outcome: 12.E5.P.1

### General Questions

1. If the volume of a  $1.5 \times 1.5 \times 1.5$  cube is  $3.375 \text{ units}^3$ , how many times larger would the volume be if the dimensions of the cube were doubled to  $3 \times 3 \times 3$ ?
2.  $135 \text{ cm} = \text{_____ m}$
3. Simplify this fraction:  $\frac{40}{300}$
4.  $3 \text{ feet and } 1212 \text{ inches} = \text{_____ feet}$
5. Consider the expression  $y = 3x$ . What is the value of  $x$  when  $y = 96$ ?

### Answers

$2^3$  or  
8 times

1.35 m

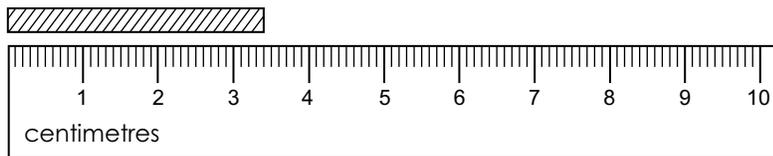
$\frac{2}{15}$

104 feet

$x = 32$

### Unit Questions

Use the following diagram to answer questions 6 to 8.



6. Measure the string using the given ruler.
7. What is the precision?
8. What is the uncertainty?

3.4 cm

1 mm or  
0.1 cm

$\pm 0.5 \text{ mm}$

### Other Questions

9.

10.

# Mental Math

G-3

## Grade 12 Essential Mathematics (40S)

Unit G: Precision Measurement

Specific Learning Outcome: 12.E5.P.1

| General Questions   | Answers                |
|---|------------------------|
| 1. Calculate the volume of a cube with each side measuring 30 cm.                             | 27 000 cm <sup>3</sup> |
| 2. Calculate $\frac{8}{16}$ of 24.  | 12                     |
| 3. What is the unit price of a pen if 10 pens cost \$5?                                       | \$0.50/pen             |
| 4. 0.42 km = _____ m  | 420 m                  |
| 5. Calculate the price, including PST of 7% and GST of 5%, of a \$25 DVD on sale for 20% off. | \$22.40                |
| Unit Questions  |                        |
| 6. There are 12 inches in a foot. How many inches is 3'2"?                                    | 38"                    |
| 7. There are 100 centimetres in a metre. How many cm is 2.45 m?                               | 245 cm                 |
| 8. What is 64" in feet and inches?  | 5'4"                   |
| Other Questions   |                        |
| 9.  |                        |
| 10.   |                        |

# Mental Math

G-4

## Grade 12 Essential Mathematics (40S)

Unit G: Precision Measurement

Specific Learning Outcome: 12.E5.P.1

### General Questions

1. Complete the pattern: 9, 18, 27, 36, \_\_\_\_\_, \_\_\_\_\_
2. Solve for  $x$ :  $\frac{7}{8} + 4 = \frac{x}{8}$
3. Amandeep is 4'2" tall. Calculate her approximate height in centimetres. (1 inch = 2.54 cm)
4. What is the perimeter of a triangle with sides measuring 3.6 cm, 3.2 cm, and 4.1 cm?
5. Evaluate:  $\frac{3}{7} - \frac{2}{14}$

### Answers

45, 54

39

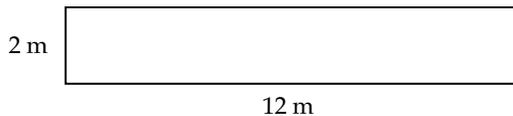
$\approx 125$  cm  
 $= 127$  cm

10.9 cm

$\frac{2}{7}$  or  $\frac{4}{14}$

### Unit Questions

Use the diagram below to answer questions 6 and 7.



6. Find the area of the rectangle.
7. Find the perimeter of the rectangle.
8. You want to fence a garden that has a perimeter of 92'. Fencing costs \$199.99 for each 25' section. Approximately how much will the fencing cost before taxes?

24 m<sup>2</sup>

28 m

\$800

### Other Questions

9.

10.

# Mental Math

G-5

## Grade 12 Essential Mathematics (40S)

Unit G: Precision Measurement

Specific Learning Outcome: 12.E5.P.1

### General Questions

1. Complete the pattern : 59, 53, 47, 41, \_\_\_\_\_ , \_\_\_\_\_
2. Simplify this fraction:  $\frac{14}{64}$
3. Solve for  $x$ :  $3x - 2 = 16$
4. An 80-page book has 5 chapters. Assuming each chapter has the same number of pages, how many pages are there in each chapter?
5. Calculate 6% of \$550.

### Answers

35, 29

$\frac{7}{32}$

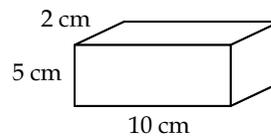
6

16 pages

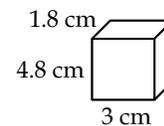
\$33

### Unit Questions

Use the diagram shown here to answer questions 6 to 8.



6. What is the volume of the box above?
7. How many of the small boxes shown here can you fit inside the bigger box above?



8. What is the perimeter around the bottom of the bigger box?

$100 \text{ cm}^3$

3 small boxes

24 cm

### Other Questions

9.

10.

