

SHARP

Worksheet 29: Term 3 Revision

Grade 8 Mathematics

1. Simplify the following without using your calculator:

a) $\frac{21}{50} + 1\frac{12}{25} - \frac{9}{10}$

b) $0.81 + 0.929 - 0.076$

c) $\sqrt{\frac{36}{64}} + \sqrt[3]{\frac{125}{8}}$

d) $0.132 \div 11$

e) $1\frac{3}{7} + \left(2\frac{3}{5}\right)^2 - 3\frac{1}{2}$

f) $\sqrt[3]{0.125}$

g) $\frac{30}{13} \times \frac{15}{12} \div \frac{18}{39}$

h) $0,525 + (0,12)^2$

i) $\left(\frac{1}{16} + \frac{4}{5}\right) - \sqrt{\frac{49}{64}}$

j) $0,095 \times 61.074$

2. Give the simplest equivalent fraction for each of these:

a) $\frac{81}{24}$

b) $\frac{86}{100}$

c) $\frac{20}{80}$

d) $\frac{36}{96}$

e) $\frac{35}{42}$

f) $\frac{32}{56}$

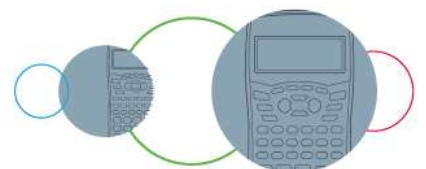
g) $\frac{93}{33}$

h) $\frac{32}{8}$

i) $\frac{98}{24}$

3. Complete the following table by filling in the correct missing values:

Common fraction in Simplest Form	Percentage	Decimal (round to 3 decimal places where necessary)
$\frac{1}{3}$		
	6.25%	
		1,18
$6\frac{1}{7}$		
	120%	
		2.6363
$\frac{19}{59}$		
	150%	
		1.15



4. Convert these mixed numbers to improper fractions:

a) $26\frac{4}{5}$

b) $29\frac{11}{12}$

c) $9\frac{8}{9}$

d) $28\frac{4}{7}$

e) $79\frac{12}{20}$

f) $13\frac{4}{6}$

g) $22\frac{10}{25}$

h) $4\frac{6}{9}$

i) $3\frac{16}{25}$

5. Convert these improper fractions to mixed numbers:

a) $\frac{226}{125}$

b) $\frac{30}{14}$

c) $\frac{98}{7}$

d) $\frac{460}{120}$

e) $\frac{384}{56}$

f) $\frac{49}{42}$

g) $\frac{3507}{50}$

h) $\frac{621}{99}$

i) $\frac{77}{33}$

6. Complete the following table by rounding off appropriately:

Number	2 decimal places	1 decimal place	Whole number
3,883			
9.548			
45.792			
55.132			
53.956			
3.905			
25.532			

7. Find the percentage for each of the following:

a) 179 out of 200

b) 19 out of 25

c) 118 out of 125

d) 7 out of 30

e) 497 out of 700

f) 11 out of 18

8. Find the percentage increase or decrease of the following

a) 61 increased to 243

b) 3 increased to 39

c) 30 decreased to 26

d) 14 increased to 25

e) 30 decreased to 17

f) 98 decreased to 33

9. What is

a) 22% of 11?

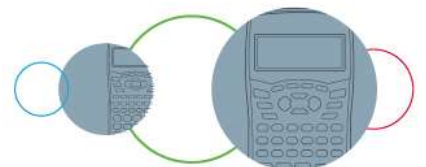
b) 20% of 127?

c) 43% of 700?

d) 16% of 419?

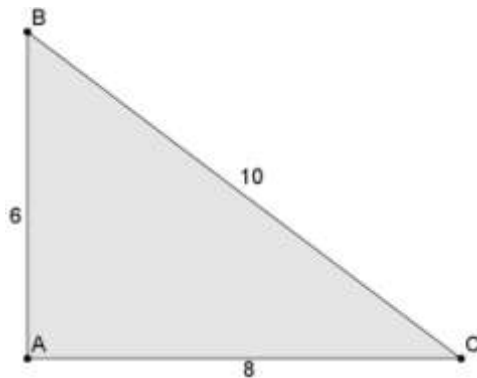
e) 68% of 450?

f) 138% of 12?

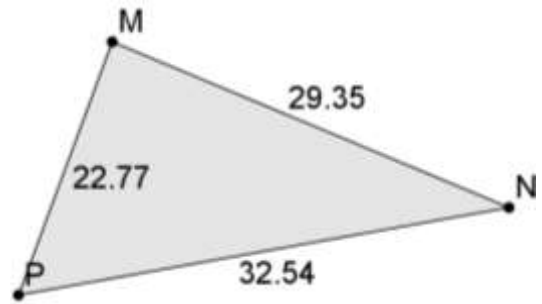


10. Given the following triangles, use Pythagoras to say whether or not they are right-angled triangles.

a)

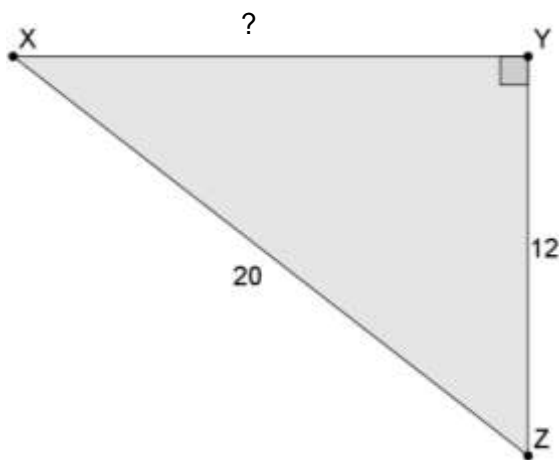


b)

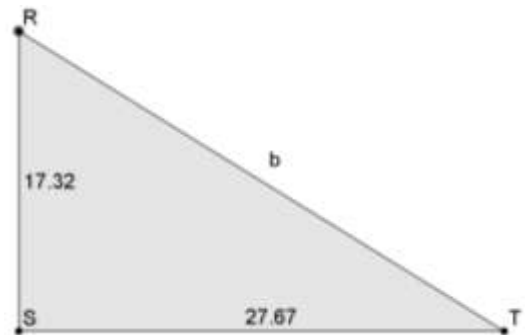


11. Find the missing side of these triangles by using Pythagoras:

a)

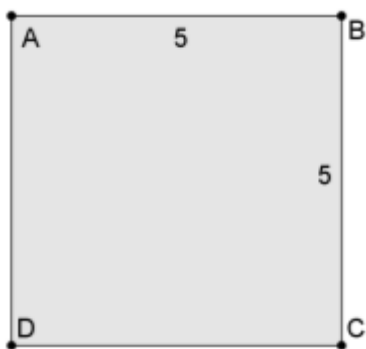


b)

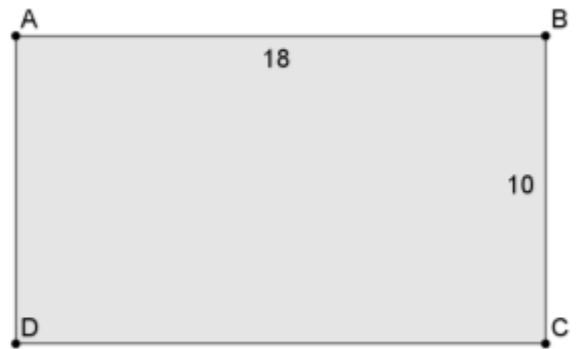


12. Find the area and perimeter of the following shapes:

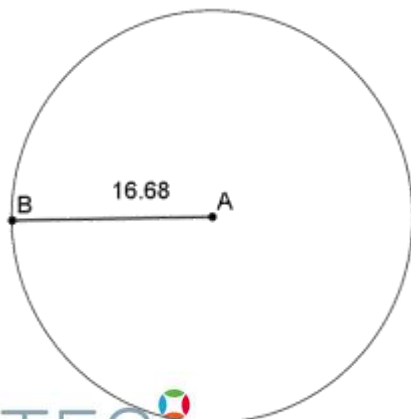
a)



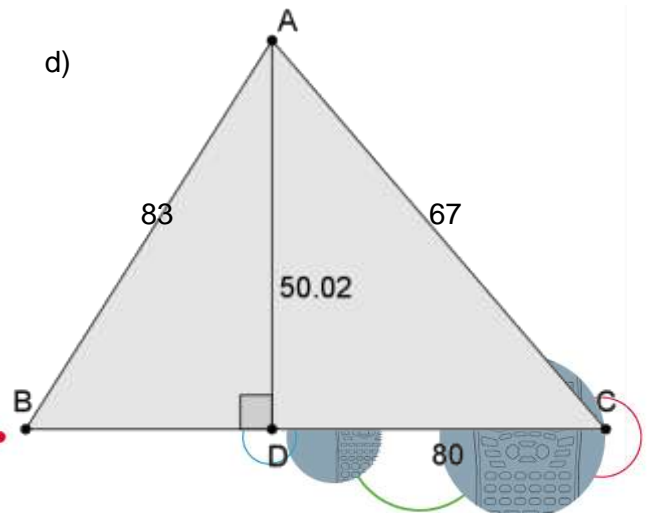
b)

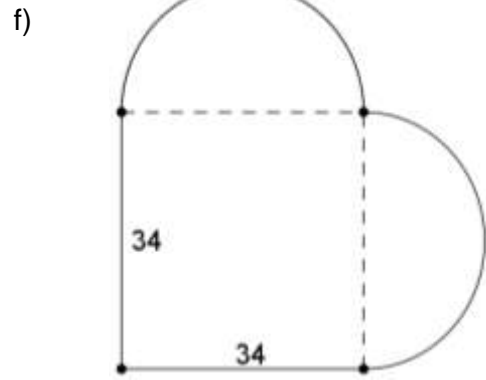
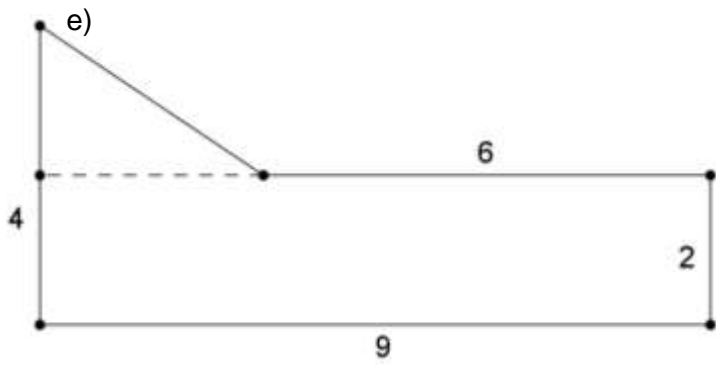


c)



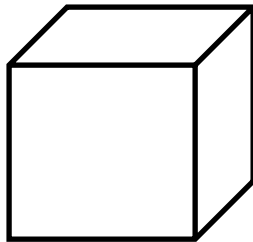
d)



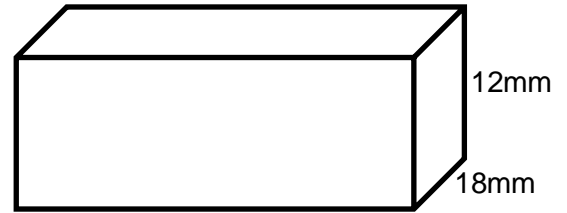


13. Find the surface area and volume of the following shapes:

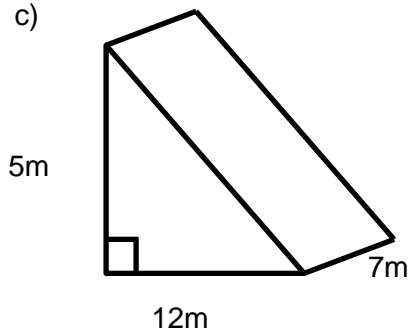
a) all sides = 9.49 cm



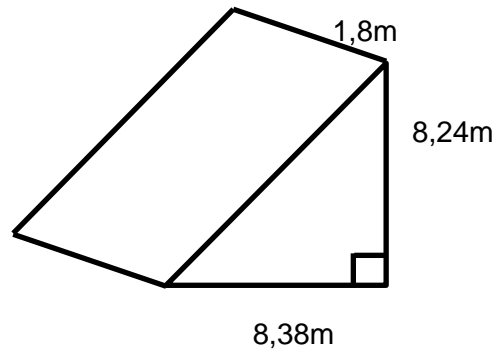
b) 34mm



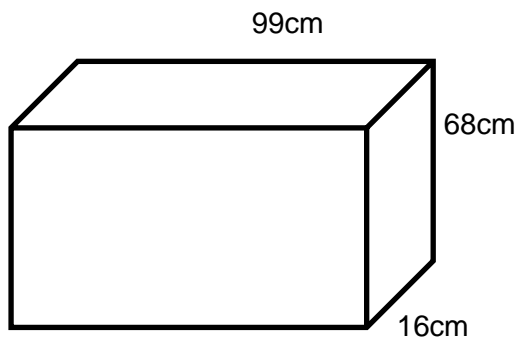
c)



d)

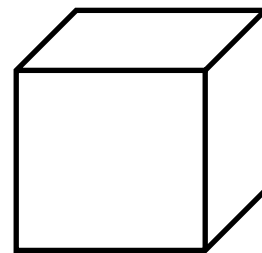


e)



f)

all sides = 245mm



14. Convert the measurements to the new units given:

a) $193\,798\text{ cm}^2 \rightarrow \text{m}^2$

b) $3\,437\,400\text{ m}^2 \rightarrow \text{km}^2$

c) $68\text{ mm}^2 \rightarrow \text{cm}^2$

d) $400\text{ cm}^3 \rightarrow \text{mm}^3$

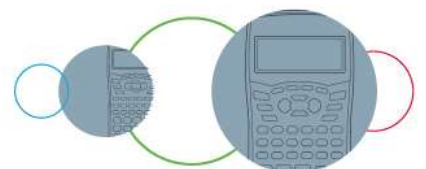
e) $54\,204\,480\text{ cm}^3 \rightarrow \text{m}^3$

f) $6.57\text{ m}^3 \rightarrow \text{cm}^3$

g) $195\text{ mm}^3 \rightarrow \text{cm}^3$

h) $7\,331\,805\text{ mm}^2 \rightarrow \text{m}^2$

i) $3\,064\text{ cm}^2 \rightarrow \text{mm}^2$



15. Leslie gets the following marks for her 9 subjects:

49 93 62 55 82 49 64 79 57

- Find the mean of the data.
- Find the range of the data.
- Find the median and the mode for the data.
- Do you think that Leslie has a mark that is very different to all her other marks? Give a reason for your answer.

16. Draw a pie chart for the following information. Show all percentages for each item on the pie chart as well as the angle for each item.

Amos makes a donation to several different charities:

Animal Anti-Cruelty - R630	SPCA – R175	TLC – R580
Smile Foundation – R1 640	Red Cross – R1000	ALS Research – R150.

17. Lebohang uses her random number generator on her **SHARP** calculator to generate 39 random numbers between 0 and 99 (Remember that if you did this exercise on your SHARP calculator you would not get the same list of numbers). They are:

47 16 82 81 70 4 16 75 74 82 81 53 53
 61 71 89 20 54 58 5 71 97 39 69 90 26
 15 52 37 54 67 40 66 60 95 66 3 4 65

- Place the data in a stem-and-leaf plot.
- Use the stem and leaf plot to complete the tally table below (Re-draw the table in your book):

Group	Tally	Frequency
0 – 9		
10 – 19		
20 – 29		
30 – 39		
40 – 49		
50 – 59		
60 – 69		
70 – 79		
80 – 89		
90 - 99		

- What is the range of data values that Lebohang gets?
- From the stem-and-leaf plot and the tally table, do you think that the numbers were distributed evenly? Give a reason for your answer.
- Using your tally table, draw a histogram to represent the numbers.

