SHARP

Worksheet 1: Whole Numbers Revision

Grade 9 Mathematics CAPS

1. Give the meanings of the following words:

a)	prime numbers	b)	whole numbers	c)	integers
d)	real numbers	e)	rational numbers		
f)	irrational numbers	g)	undefined	h)	multiple
i)	factor	j)	prime factor	k)	LCM
l)	HCF	m)	natural numbers		
n)	non-real numbers	o)	ratio		

2. Redraw the table in your book, and tick the column that each number belongs in:

Number	Real	Non-Real	Rational	Irrational	Whole Number	Natural Number	Integer
$\sqrt{5}$							
$\sqrt{-5}$							
-7							
0							
π							
$\frac{4}{5}$							
3 ÷ 7							
-4.5							
0.478							
$\sqrt{9}$							

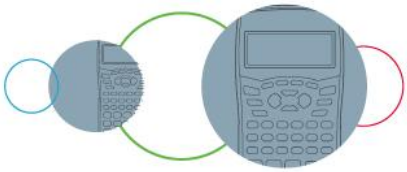
3. Draw a number line to represent each of these numerical statements:

a) $-3 < x \leq 5 \quad x \in Z$ b) $-5 \leq x < 3 \quad x \in N_0$

c) $x \in [3; 7) \quad x \in R$ d) $x \in (-7; -2) \quad x \in Z$

4. Give the first 5 multiples of each of the following:

a) 21 b) 43 c) 98



5. Give the prime factors of the following numbers (use the ladder or tree method to find them):

a)	236	b)	267	c)	540
d)	940	e)	258	f)	465

6. Give the lowest common multiple and the highest common factor for each pair of numbers:

a)	100 and 132	b)	378 and 252	c)	625 and 195
d)	175 and 63	e)	266 and 142	f)	156 and 378

7. Give the simplest ratio for each of these

a)	68 : 34	b)	42 : 63	c)	64 : 16
d)	44 : 11	e)	56 : 7	f)	54 : 18
g)	60 : 90	h)	2 : 12	i)	15: 45

8. Give the value of x for each of these equivalent ratios:

a)	$3 : 8 \rightarrow x : 24$	b)	$96 : 84 \rightarrow 8 : x$	c)	$72 : 64 \rightarrow x : 16$
d)	$92 : x \rightarrow 23 : 16$	e)	$x : 77 \rightarrow 7 : 11$	f)	$20 : x \rightarrow 100 : 20$

9. Give the rate asked in brackets for each of the statements below:
   a) 400 words in 15 minutes (words/minute)
   b) 1500km in 9 hours (km/h)
   c) 58km per hour (m/s)
   d) 5ml of baking powder per 100g of flour (g/ml)
   e) 40 bricks per half hour (bricks/min)

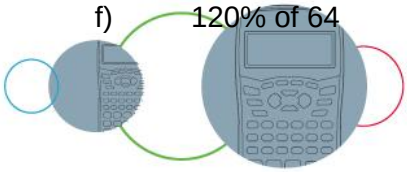
10. Say whether each of these relationships is direct or indirect proportion:
    a) The more alcohol you drink, the lower your driving ability.
    b) For every R10 spent, a company donates R1 to a children's home.
    c) I can buy 5 sweets for R2, and 10 sweets for R4, and so on
    d) It takes 4 builders 32 hours to build a wall, how long will it take 6 builders?
    e) For every R500 I spend, I save R50.

11. Increase

a)	479 by 18%	b)	5 400 by 96%	c)	33 000 by 30%
d)	166 by 50%	e)	112 by 38%	f)	208 by 150%

12. What is

a)	26% of 573	b)	32% of 48 000	c)	92% of 13 289
d)	52% of 2 000	e)	15% of 458	f)	120% of 64



13. Decrease

a)	141 by 48%	b)	40 by 38%	c)	770 by 88%
d)	72 by 14%	e)	360 by 68%	f)	24 000 by 64%

14. Calculate the amount of simple interest earned for each of the questions below using the formula $SI = \frac{P.n.r}{100}$ or $SI = P.n.i \quad where\ i = \frac{r}{100}$

a) Phumi invests R11 000 for 12 years at an interest rate of 9%p.a.

b) Daniel invests R20 800 for 15 years at an interest rate of 18% p.a.

c) Amanda invests R62 900 for 10 years at an interest rate of 5% p.a.

d) Mr Moyo invests R36 000 for 6 months at an interest rate of 8% p.a.

e) Anna invests R73 450 for 7 years at an interest rate of 20% p.a.

15. Calculate the final amount at the end of each of these investments using the formula $A = P(1 + i)^n$:

a) Melody invests R18 180 for 12 years at an interest rate of 15% p.a.

b) Lebo invests R9 900 for 4 years at an interest rate of 8% p.a.

c) Edmore invests R49 700 for 6 years at an interest rate of 13% p.a.

d) Vandi invests R3 000 for 10 years at an interest rate of 18% p.a.

e) Boikanyo invests R11 250 for 6 months at an interest rate of 10% p.a.