YEAR 8 MATHS
Topic: INTEGERS & INDICES (Chapter 1) REVISION

Name:_____________________________________________________

Show appropriate working on this revision.
You are not free to use a calculator on this revision.

Question 1
Eg The 5 in 45293 is 5 thousands
What number is represented by the 6 in the following:

(a) 675
(b) 56 784
(c) 72 968
(d) 62 542
(e) 77 946

Question 3
Solve these (use a number line if that helps):

(a) -14 + -3
(b) +3 + -20
(c) +4 – +12
(d) -4 – -32
(e) 4 – 6 – 20

Question 2
Solve these using BEDMAS
(Order of operations: Brackets, Exponents, Divide, Multiply, Add, Subtract)

(a) 20 ÷ (2 + 3) + 3
(b) (4 × 6) ÷ 12 – 1
(c) 20 – 2 × 8 + 5
(d) 5 × (12 ÷ 4) – 7
(e) 7 + 2 × 10 ÷ 5 – 4

Question 4
Solve these:

(a) 5 × -7
(b) -7 × -3
(c) -4 × 10
(d) -6 × -2 × -2
(e) 36 ÷ -3
(f) -30 ÷ -5
(g) -45 ÷ 9
Question 5

Eg. $5^2 = 5 \times 5 = 25$

The basic numeral for $6^2$ is:

A 12
B 8
C 36
D 66
E 62

Question 6

Eg. $3^4 = 3 \times 3 \times 3 \times 3 = 81$

The basic numeral for $2^4$ is:

A 6
B 24
C 8
D 16
E 42

Question 7

Eg. $6 \times 6 \times 6$ in index form is $6^3$

Write the following in index form.

(a) $2 \times 2 \times 2 \times 2 \times 2$
(b) $8 \times 8 \times 8 \times 8$
(c) $7 \times 7 \times 7 \times 7 \times 7$

Question 8

Eg. $5 \times 5 \times 5 \times 8 \times 8 = 5^4 \times 8^3$

Write the following in index form.

(a) $3 \times 3 \times 3 \times 7 \times 7 \times 7 \times 7$
(b) $5 \times 5 \times 9 \times 9 \times 5 \times 5 \times 9 \times 9 \times 9$

Question 9

Eg. $6^3$ in expanded form is $6 \times 6 \times 6$

Write the following in expanded form.

(a) $2^4$
(b) $14^5$
(c) $5^2 \times 7^3$

Question 10

Eg. $8^3w^4$ expanded is $8 \times 8 \times 8 \times w \times w \times w \times w$

Write the following in expanded form.

(a) $5^3h^4$
(b) $2^5g^7w^4$

Question 11

Eg. $5 \times k \times k \times k \times 5 \times m \times m \times k \times k = 5^2k^5m^2$

Write the following in index form.

(a) $3 \times k \times k \times 3 \times m \times m \times m \times k$
(b) $2 \times a \times b \times b \times 2 \times a \times a \times 2 \times b \times b$
Question 12
Eg. \(8^4 \times 8^3 = 8^7\)
Simplify the following expression.
(a) \(6^4 \times 6^7\)
(b) \(12^5 \times 12^2\)
(c) \(11^4 \times 11^7 \times 11^3\)

Question 13
Eg. \(12^5 \div 12^2 = 12^3\)
Simplify the following expressions.
(a) \(8^{10} \div 8^7\)
(b) \(9^9 \div 9^4\)
(c) \(\frac{5^6}{5^2}\)

Question 14
Use index laws to simplify each expression as far as possible.
(a) \(\frac{3^{14} \times 3^7}{3^{10}}\)
(b) \(\frac{m^2 \times m^5}{m \times m^3}\)

Question 15
Eg. \((6^4)^3 = 6^{12}\)
Simplify the following expression.
(a) \((8^4)^2\)
(b) \((11^3)^3\)
(c) \((6^4)^{11}\)