

Year 8 Revision

1 Evaluate (solve) each of the following:

a. $4^3 + 2^4 \times 3^2 =$

b. $\sqrt{49} - \sqrt{36} + \sqrt{64} =$

c. $4^6 \times 2^3 \times 8^5 =$

d. $\sqrt{16} \times \sqrt{64} =$

2 Look at the following list of numbers.

1 2 3 4 5 6 7 8 9 10

From the list choose one number that satisfies the following criteria:

a Three square numbers: _____

b A cube number: _____

c An even number that is not prime: _____

d An even number that is prime: _____

e A perfect number: _____

f Three factors of 32: _____

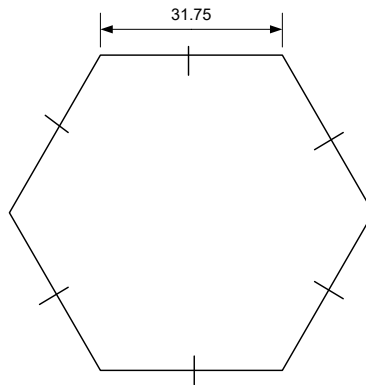
g The highest prime number in the list: _____

h The number which is half the sum of the four numbers leading to it: _____

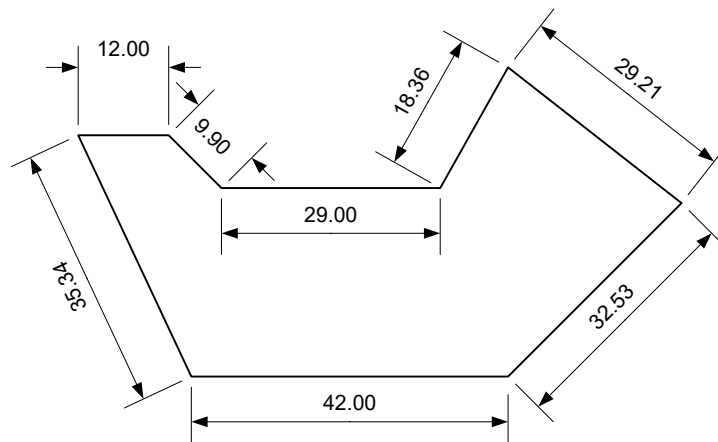
i A two digit number: _____

3 Express 248 as a product of prime factors.

- 4 The shape below is a hexagon.
All measurements are given in mm.
Calculate the perimeter of the shape.



- 5 The shape below is an irregular octagon.
All measurements are given in mm.
Calculate the perimeter of the shape.



- 6 Billy buys a chocolate bar.
The chocolate bar has 30 squares of chocolate in it.
Billy eats $\frac{1}{3}$ of the chocolate bar and gives half of the chocolate bar to his friend who promptly eats it.
What fraction of the original chocolate bar remains?

- 7 Andy plays marbles.
He has 20 red marbles, 25 blue marbles and 15 green marbles.
a What fraction of Andy's marbles are green? Give your answer in its simplest form.

In a competition, Andy loses four red marbles, seven blue marbles and three green marbles.

- b What fraction of the marbles that Andy now has are green? Give your answer in its simplest form.

- 8 Giving your answer in the simplest form, evaluate each of the following fractions:

a. $\frac{3}{4} \times \frac{8}{9} =$

b. $\frac{7}{8} - \frac{2}{5} =$

c. $\frac{4}{5} + \frac{9}{25} =$

d. $\frac{7}{15} \div \frac{4}{5} =$

e. $2\frac{5}{8} \times 3\frac{1}{5} =$

f. $7 \times \frac{8}{9} =$

9 Simplify each question below leaving your answer in index form:

a. $7^3 \times 7^5 =$

b. $\frac{8^4 \times 4^6 \times 16^3 \times 32^7}{2^7 \times 64^2 \times 8^5} =$

c. $\frac{m^4 \times m^{-2}}{m^0} =$

d. $(7^7)^5 =$

e. $4p^3 \times 5p^5 =$

f. $6p^3 \times 4p^2 \times 3q^5 \times 8q^{-3} =$

g. $(7p^3)^2 \times (8p^5)^4 =$

10 Write the following as ordinary numbers:

a. $7.2 \times 10^4 =$

b. $6.738 \times 10^0 =$

c. $9.163 \times 10^{-3} =$

d. $6 \times 10^{-6} =$

e. $3.09 \times 10^5 =$

11 Write the following numbers in standard form

a. $12 =$

b. $5.932 =$

c. $84,934,000 =$

d. $-493 =$

e. $\frac{3}{10} =$

f. $\frac{3}{4} =$

g. $5\frac{1}{2} =$

- 12 Write the following numbers to the given degree of accuracy
- 8932 to the nearest thousand.
 - 33482 to the nearest ten.
 - 33.9382 to the nearest tenth.
 - 6313331 to one significant figure.
 - 839.922 to two significant figures.
 - 76.93824 to two decimal places.
 - 52.8 to the nearest integer.
- 13 Buses leave the bus station for Castleford every 25 minutes. Buses leave the bus station for Goole every 40 minutes. Two buses, one bound for Castleford and the other bound for Goole, leave at exactly 9:00am. What is the next time that two buses depart at the same time in this way?

- 14 Reflect shape A in the x axis and label it shape B.
Then reflect shape B in the y axis and label it shape C.

