

Square Numbers

Name: _____

Objective: To be able to recognise the first 15 square numbers.

Exercise

1) Evaluate each of the following:

a) 4^2

b) 10^2

c) 8^2

d) 12^2

e) 1^2

f) 6^2

g) 7^2

h) 5^2

i) 15^2

j) 14^2

k) 11^2

l) 9^2

m) 3^2

n) 2^2

o) 13^2

2) Evaluate the following square roots:

a) $\sqrt{9}$

b) $\sqrt{64}$

c) $\sqrt{16}$

d) $\sqrt{121}$

e) $\sqrt{81}$

f) $\sqrt{144}$

g) $\sqrt{169}$

h) $\sqrt{25}$

i) $\sqrt{36}$

j) $\sqrt{4}$

k) $\sqrt{100}$

l) $\sqrt{1}$

m) $\sqrt{225}$

n) $\sqrt{49}$

o) $\sqrt{196}$

3) For each of the following numbers, write YES if it is a perfect square or No if it is not.

a) 31

b) 49

c) 46

d) 14

e) 1

f) 114

g) 121

h) 9

i) 10

j) 199

k) 81

l) 64

m) 144

n) 212

o) 100

4) Evaluate the following expressions:

a) $3^2 + 4^2$

b) $3^2 + 2^2$

c) $2^2 + 5^2$

d) $3^2 + 5^2 + 7^2$

e) $4^2 + 5^2 + 6^2$

f) $2^2 + 6^2 + 10^2$

g) $1^2 + 5^2$

h) $1^2 + 10^2$

i) $1^2 + 10^2 + 15^2$

j) $9 + 9^2$

k) $4 + 8^2$

l) $2 + 5^2 + 8^2$

m) $10 + 10^2 + 12 + 12^2 + 14 + 14^2$

n) $1^2 + 4^2 + 9^2$

o) $\sqrt{9} + 3^2$

Extension

5) Evaluate the following expressions:

a) 4^3

b) 2^3

c) 3^3

d) 5^3

e) 1^3

6) Evaluate each of the following cube roots:

a) $\sqrt[3]{64}$

b) $\sqrt[3]{8}$

c) $\sqrt[3]{1}$

d) $\sqrt[3]{27}$

e) $\sqrt[3]{125}$

Challenge

7) Copy and complete the following sentences. The first one has been done for you.

a) The $\sqrt{27}$ is between 5 and 6 because 27 is between 25 and 36.

b) The $\sqrt{10}$ is between _____ and _____ because _____ is between _____ and _____.

c) The $\sqrt{60}$ is between _____ and _____ because _____ is between _____ and _____.

e) The $\sqrt{39}$ is between _____ and _____ because _____ is between _____ and _____.

f) The $\sqrt{54}$ is between _____ and _____ because _____ is between _____ and _____.

g) The $\sqrt{111}$ is between _____ and _____ because _____ is between _____ and _____.

h) The $\sqrt{158}$ is between _____ and _____ because _____ is between _____ and _____.

k) The $\sqrt{0.5}$ is between _____ and _____ because _____ is between _____ and _____.