



**EXAM PAPERS PRACTICE**

**Order by Size**

**Model Answers**

### Question 1

Write the following in order of size, smallest first.

$$(1.5)^{\frac{2}{3}}$$

$$\left(\frac{2}{3}\right)^{1.5}$$

$$\left(\frac{2}{3}\right)^{-1.5}$$

$$\left(-\frac{2}{3}\right)^{\frac{2}{3}}$$

**Answer:**

$$\left(\frac{2}{3}\right)^{-1.5} \quad \left(-\frac{2}{3}\right)^{\frac{2}{3}} \quad (1.5)^{\frac{2}{3}} \quad \left(\frac{2}{3}\right)^{1.5}$$

### Question 2

Write the following in order of size, smallest first.

$$\cos 100^\circ$$

$$\sin 100^\circ$$

$$\tan 100^\circ$$

**Answer:**

$$\cos 100^\circ = -0.173$$

$$\sin 100^\circ = 0.984$$

$$\tan 100^\circ = -5.671$$

Order starting from the smallest:

$$\tan 100^\circ < \cos 100^\circ < \sin 100^\circ$$

### Question 3

Write the following in order of size, smallest first.

$$19\% \quad \frac{1}{5} \quad \sqrt{0.038} \quad \sin 11.4^\circ \quad 0.719^5$$

**Answer:**

$$19\% \quad 0.719^5 \quad \sqrt{0.038} \quad \sin 11.4^\circ \quad \frac{1}{5}$$

### Question 4

Write the following in order of size, smallest first.

$$0.47 \quad \frac{8}{17} \quad \sqrt{0.22} \quad \tan 25^\circ$$

**Answer:**

$$\tan 25^\circ < \sqrt{0.22} < 0.47 < \frac{8}{17}$$

correct conversion to decimals 0.466, 0.469, 0.471

### Question 5

For this question,  $1 < x < 2$ .

Write the following in order of size, smallest first.

$$\frac{5}{x} \quad 5x \quad \frac{x}{5} \quad x - 5$$

**Answer:**

$$x - 5 \quad \frac{x}{5} \quad \frac{5}{x} \quad 5x$$

### Question 6

Write the following in order of size, smallest first

$$\frac{2}{\sqrt{3}} \quad 2 - \sqrt{3} \quad \sqrt{3} \quad 2 - \frac{\sqrt{3}}{2}$$

EXAM PAPERS PRACTICE

**Answer:**

$$2 - \sqrt{3}, 2 - \frac{\sqrt{3}}{2}, \frac{2}{\sqrt{3}}, \sqrt{3}$$

### Question 7

When  $0 < x < 0.9$ , write the following in order of size with the smallest first.

$\cos x^\circ$

$x^2$

$x^{-1}$

**Answer:**

$x^2, \cos x^\circ, x^{-1}$

### Question 8

$0.0008$

$8 \times 10^{-5}$

$0.8\%$

$\frac{1}{125\,000}$

Write the numbers above in order, smallest first.

**Answer:**

$1/125000, 8 \times 10^{-5}, 0.0008, 0.8\%$

### Question 9

Write the following in order of size, smallest first.

$$\frac{\pi}{4} \quad \frac{1}{\sqrt{2}} \quad \frac{3}{4} \quad \sin 47^\circ$$

**Answer:**

$$1/\sqrt{2}, \sin 47, 3/4, \pi/4$$

### Question 10

Rearrange the quantities in order with the smallest first.

$$\frac{1}{8}\%, \quad \frac{3}{2500}, \quad 0.00126$$

**Answer:**

$$3/2500, 1/8, 0.00126$$