

Name _____

Date _____

4.1 Ordering decimals — worksheet

Compare and order decimal numbers. · 56 questions · Show your working.

Remember

- Compare the **whole-number parts** first.
- If they are equal, compare the **tenths**; then the **hundredths**; then the **thousandths**.
- Work from the **left**, one place at a time — stop as soon as they differ.
- More digits does **not** mean bigger: $2.816 < 2.82$.
- Filling with zeros makes the columns line up: $4.6 = 4.60$, so $4.60 < 4.66$.
- A zero on the end never changes the value: $0.5 = 0.50 = 0.500$.
- Convert to the same unit before comparing measurements: $450 \text{ g} = 0.45 \text{ kg}$.

A · Fluency — Order sets of decimals and compare pairs.

- 1 Write these in order of size, smallest first: **6.8, 4.23, 7.811, 0.77**

- 2 Write these in order of size, smallest first: **4.66, 4.6, 4.08**

- 3 Write these in order of size, smallest first: **8.9, 14.639, 6.45**

- 4 Write these in order of size, smallest first: **2.82, 2.6, 2.816**

- 5 Write these in order of size, smallest first: **0.5, 0.45, 0.54**

- 6 Write these in order of size, smallest first: **3.07, 3.7, 3.007**

- 7 Write these in order of size, smallest first: **12.3, 12.03, 12.33**

- 8 Write these in order of size, smallest first: **9.1, 9.09, 9.11**

- 9 Write these in order of size, smallest first: **0.089, 0.9, 0.09**

- 10 Write these in order of size, smallest first: **5.5, 5.05, 5.55, 5.505**

- 11 Write these in order of size, smallest first: **1.4, 1.44, 1.404**

- 12 Write these in order of size, smallest first: **20.2, 2.02, 22.0**

- 13 Write these in order of size, **largest** first: **6.8, 4.23, 7.811, 0.77**

14 Write these in order of size, **largest** first: **4.66, 4.6, 4.08**

15 Write these in order of size, **largest** first: **8.9, 14.639, 6.45**

16 Write these in order of size, **largest** first: **2.82, 2.6, 2.816**

17 Write these in order of size, **largest** first: **0.5, 0.45, 0.54**

18 Write these in order of size, **largest** first: **3.07, 3.7, 3.007**

19 Which is bigger, **4.6** or **4.66**?

- ☐ 4.6
- ☐ 4.66

20 Which is bigger, **2.816** or **2.82**?

- ☐ 2.816
- ☐ 2.82

21 Which is bigger, **0.9** or **0.45**?

- ☐ 0.9
- ☐ 0.45

22 Which is bigger, **3.07** or **3.7**?

- ☐ 3.07
- ☐ 3.7

23 Which is bigger, **12.03** or **12.3**?

- ☐ 12.03
- ☐ 12.3

24 Which is bigger, **9.11** or **9.09**?

- ☐ 9.11
- ☐ 9.09

B · Reasoning — Place value, zeros and the digit-count trap.

25 When comparing decimals, what do you look at first?

- ☐ The last digit
- ☐ The whole-number part
- ☐ The number of digits
- ☐ The tenths

26 Two decimals have the same whole-number part. What do you compare next?

- ☐ The hundredths
- ☐ The tenths
- ☐ The number of digits
- ☐ The last digit

27 Is 2.816 smaller than 2.82?

- ☐ Yes
- ☐ No

- 28** Is a decimal with more digits always bigger?
- ☐ Yes
- ☐ No

- 29** Which of these is a good way to compare 4.6 and 4.66?
- ☐ Count the digits
- ☐ Write 4.6 as 4.60 and compare place by place
- ☐ Add them together
- ☐ Round them both

- 30** Write 0.5 with two decimal places.

- 31** Write a decimal that lies between 3.4 and 3.5.

- 32** Write a decimal that lies between 2.81 and 2.82.

- 33** Which symbol makes this true: $6.45 \square 8.9$?

☐ $<$

☐ $>$

☐ $=$

- 34** Which symbol makes this true: $14.639 \square 8.9$?

☐ $<$

☐ $>$

☐ $=$

- 35** Which digit is in the hundredths place in 5.276?

- 36** Which digit is in the tenths place in 0.089?

C · Challenge — Numbers between numbers, and mixed units.

- 37** Put in order, smallest first: 0.7, 0.07, 0.707, 0.077

- 38** Put in order, smallest first: 1.1, 1.01, 1.101, 1.011

- 39** How many decimals with 2 decimal places lie between 3.4 and 3.5, not including the ends?

- 40** What is the largest decimal with 2 decimal places that is smaller than 7.8?

- 41** What is the smallest decimal with 3 decimal places that is bigger than 2.45?

- 42** Sofia says 0.4 is bigger than 0.35 because 4 is bigger than 35 is wrong — what is the correct reason 0.4 is bigger?
- ☐ 0.4 has fewer digits
 - ☐ 4 tenths is more than 3 tenths
 - ☐ 0.4 is a whole number
 - ☐ They are equal

- 43** Order these masses, smallest first: 0.5 kg, 450 g, 0.45 kg. Give them in kg, separated by commas.
- _____
- _____

- 44** A number lies between 5.6 and 5.7 and has 2 decimal places. How many possible numbers are there?
- _____
- _____

D · Word problems — Times, masses, prices and lengths.

- 45** Four runners record 12.4 s, 12.04 s, 12.44 s and 12.14 s. Write the times in order, fastest first.
- _____
- _____

- 46** Three parcels weigh 2.5 kg, 2.05 kg and 2.55 kg. What is the mass of the heaviest, in kg?
- _____
- _____

- 47** Three parcels weigh 2.5 kg, 2.05 kg and 2.55 kg. What is the mass of the lightest, in kg?
- _____
- _____

- 48** Four shops sell the same pen for \$1.20, \$1.02, \$1.22 and \$1.2. Order the prices from cheapest, separated by commas.
- _____
- _____

- 49** A high-jumper clears 1.65 m, 1.7 m and 1.68 m. What is her best jump, in metres?
- _____
- _____

- 50** Rainfall was 0.8 mm, 0.08 mm and 0.88 mm on three days. What was the wettest day's rainfall, in mm?
- _____
- _____

- 51** A shop labels two bags 0.5 kg and 0.50 kg. Are they the same?

- ☐ Yes
- ☐ No

- 52** Which is longer, a 2.35 m plank or a 2.4 m plank? Give the length in metres.
- _____
- _____

- 53** A thermometer reads 36.8 °C, 36.08 °C and 36.88 °C on three days. What was the highest reading, in °C?
- _____
- _____

- 54** Petrol costs \$1.459 or \$1.46 per litre at two stations. Which is cheaper? Give the price.
- _____
- _____

- 55** Order these lengths, shortest first: 0.9 m, 90 cm, 0.09 m. Give them in metres, separated by commas.

- 56** Three athletes throw 14.639 m, 8.9 m and 6.45 m. What is the winning distance, in metres?
