Write positive integers in the form $A \times 10^n$

H

1 Complete the statements and then continue the pattern.

a) $30 = 3 \times \square$

b) $300 = 3 \times 10 \times \square = 3 \times 10^{\square}$

c) $3{,}000 = 3 \times 10 \times 10 \times \square = 3 \times 10^{\square}$

d) 30,000 = _____

e) 300,000 = _____

f) 3,000,000 = _____

2 Sort these values into the correct columns of the table.

7×10^6 50,000 8×10^3

15×10^8 6×10 5×8^{10}

Numbers written in standard form	Numbers not written in standard form

Write two more numbers in each column.

3 Find the missing number so that these numbers are written in standard form.

a) $800 = \square \times 10^2$

b) $7{,}000{,}000 = \square \times 10^6$

c) $20 = \square \times 10$

d) five million $= \square \times 10^6$

4 Write the missing power so that these numbers are written in standard form.

a) $5{,}000 = 5 \times 10^{\square}$

b) $100{,}000 = 1 \times 10^{\square}$

c) $4{,}000{,}000{,}000 = 4 \times 10^{\square}$

d) Seven billion $= 7 \times 10^{\square}$

5 Write these as ordinary numbers.

a) $8 \times 10^6 =$ _____

b) $1 \times 10^8 =$ _____

c) $9 \times 10^5 =$ _____

6 Write these numbers in standard form.

a) 900 = _____

b) 30,000,000 = _____

c) 60 = _____

d) fifty thousand = _____

e) $40{,}000 \times 10 =$ _____

f) $1{,}000 \times 7{,}000 =$ _____

g) $200 \times 300 =$ _____

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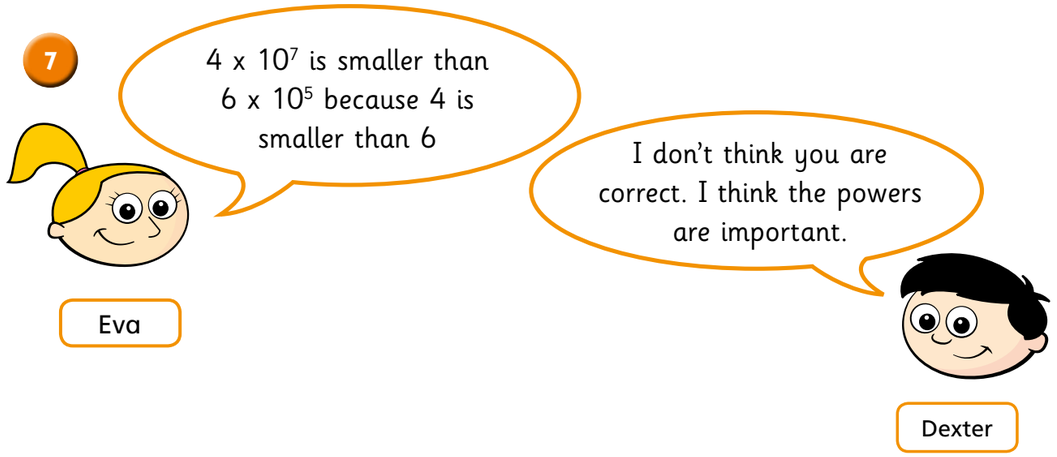

Who is correct? _____

Explain your answer.

_____

_____

8 Circle the greatest number.

4×10^6 7×10^4

Explain your answer.

_____

_____

9 Find the range of these numbers.

3×10^5 7×10^4 8×10^2 7×10^5

10 The table shows information about planets.

	Radius (in metres)		Mass (in kg)
	Standard form	Ordinary form	Standard form
Mercury	2×10^6		3×10^{23}
Venus		6000000	5×10^{24}
Earth	7×10^6		6×10^{24}
Mars		3000000	6×10^{23}
Jupiter	7×10^7		2×10^{27}
Saturn	6×10^7		6×10^{26}
Uranus		30000000	9×10^{25}
Neptune	2×10^7		1×10^{22}

a) Complete the table.

b) Which planet has the greatest radius?

_____

c) Write the names of the planets in ascending order based on their mass.

_____

_____

d) Each of the numbers in the table has been rounded to 1 significant figure.

What is the smallest possible radius of Saturn?

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