Timester Challenge

Standard Form

1) Write down the value of 10^0

2) Express the following numbers in standard form.

a) 0.00024

b) $2\ 580\ 000$

Bronze

Write the following as ordinary numbers.

a) 3.7×10^4

b) 4×10^{-5}

c) 1.2×10^{-3}

d) 2.05×10^2

Bronze

Work out $(3.2 \times 10^5) \times (4 \times 10^2)$
Give your answer in standard form.

Silver

Work out $(9.6 \times 10^4) \div (3.2 \times 10^7)$
Give your answer in standard form.

Silver

Work out $(7.05 \times 10^6) + (2.6 \times 10^5)$
Give your answer in standard form.

Silver

Work out $(9.4 \times 10^5) - (3.15 \times 10^4)$
Give your answer in standard form.

Silver

3.8×10^5 $\quad$ 6×10^3 $\quad$ 61.4×10^2

28000 $\quad$ 3.04×10^4

What is the range of values?
Give your answer in standard form.

Gold

Connor is dividing two numbers given in standard form.

$$(8 \times 10^4) \div (4 \times 10^3) = (8 \div 4) \times 10^{4-3}$$
$$= 2 \times 10^1.$$

He says,
"So, for any numbers
$(a \times 10^x) \div (b \times 10^y) = (a \div b) \times 10^{(x-y)}$
which will always be in standard form."

☐ Correct ☐ Incorrect

Give a reason for your answer.

Gold

Timester Challenge

Standard Form

Answers

1) Write down the value of $10^0 = 1$

2) Express the following numbers in standard form.

a) $0.00024 = 2.4 \times 10^{-4}$

b) $2\,580\,000 = 2.58 \times 10^6$

Bronze

Write the following as ordinary numbers.

a) $3.7 \times 10^4 = 37000$

b) $4 \times 10^{-5} = 0.00004$

c) $1.2 \times 10^{-3} = 0.0012$

d) $2.05 \times 10^2 = 205$

Bronze

Work out $(3.2 \times 10^5) \times (4 \times 10^2)$
Give your answer in standard form.

12.8×10^7
$= 1.28 \times 10^8$

Silver

Work out $(9.6 \times 10^4) \div (3.2 \times 10^7)$
Give your answer in standard form.

3×10^{-3}

Silver

Work out $(7.05 \times 10^6) + (2.6 \times 10^5)$
Give your answer in standard form.

$7050000 + 260000 = 7310000$
7.31×10^6

Silver

Work out $(9.4 \times 10^5) - (3.15 \times 10^4)$
Give your answer in standard form.

$940000 - 31500 = 908500$
9.085×10^5

Silver

3.8×10^5 380,000
6×10^3 6,000
61.4×10^2 6,140
28,000
3.04×10^4 30,400

What is the range of values?
Give your answer in standard form.

$380,000 - 6,000 = 374,000$
3.74×10^5

Gold

Connor is dividing two numbers given in standard form.

$(8 \times 10^4) \div (4 \times 10^3) = (8 \div 4) \times 10^{4-3}$
$= 2 \times 10^1.$

He says,
"So, for any numbers
$(a \times 10^x) \div (b \times 10^y) = (a \div b) \times 10^{(x-y)}$
which will always be in standard form."

☐ Correct ☑ Incorrect

Give a reason for your answer.

$As (4 \times 10^4) \div (8 \times 10^3) = (4 \div 8) \times 10^{4-3}$
$= 0.5 \times 10^1$ Not in standard form.

Gold