



Standard index form

Warm up

Simplify the following:

1. $a^5 \times a^2 =$

2. $c^8 \div c^6 =$

3. $(d^3)^5 =$

Stage 1

Express the following in standard index form:

4. 850000 =

7. 750000 =

5. 2800 =

8. 94000 =

6. 16000 =

9. 102 =

Stage 2

Express the following in standard index form:

1. 0.000044 =

4. 0.0000019 =

2. 0.0000053 =

5. 0.0000097 =

3. 0.038 =

6. 0.0045 =

Stage 3

Express the following in standard index form:

1. 8400 =

4. 0.0000034 =

2. 0.000018 =

5. 0.0068 =

3. 55000 =

6. 370000 =

Stage 4

Express the following as an ordinary number:

1. $6.6 \times 10^4 =$

5. $2.6 \times 10^{-4} =$

2. $0.043 \times 10^5 =$

6. $9.8 \times 10^{-3} =$

3. $9.1 \times 10^2 =$

7. $0.043 \times 10^5 =$

4. $0.41 \times 10^{-2} =$

8. $0.039 \times 10^{-7} =$

Stage 5

Each of the following numbers is **not** in proper standard index form.

Express the following in proper standard index form:

1. $0.57 \times 10^4 =$

2. $0.71 \times 10^3 =$

3. $0.28 \times 10^{-4} =$

4. $208 \times 10^{-9} =$

5. $55 \times 10^5 =$

6. $712 \times 10^{-3} =$

7. $21 \times 10^{-7} =$

8. $0.068 \times 10^6 =$

9. $53 \times 10^{-6} =$

10. $400 \times 10^{-9} =$

Stage 6

Calculate the following, giving your answer in standard index form.

1. $(6.3 \times 10^7) - (5 \times 10^5) =$

2. $(4.8 \times 10^5) + (7 \times 10^2) =$

3. $(3.7 \times 10^8) \times (5 \times 10^4) =$

4. $(5.3 \times 10^6) + (10 \times 10^2) =$

5. $(2 \times 10^6) \div (8 \times 10^3) =$

6. $(4.4 \times 10^8) - (10 \times 10^4) =$

7. $(6.5 \times 10^{-6}) \times (7 \times 10^{-9}) =$

8. $(7.2 \times 10^8) \div (4 \times 10^6) =$

9. $(3.8 \times 10^5) \times (4 \times 10^{-4}) =$

10. $(7.6 \times 10^7) - (5 \times 10^8) =$