

Year 9 Class 2 questions

Q1

Simplify $(7m^5)^2$.

- $49m^{10}$ $49m^5$ $49m^2$

Q2

Evaluate: $(8m)^0 =$ 1

Q3

Simplify fully: $3a^0 - 2a^3 + 4$

- $7 - 2a^3$ $-2a^3 + 4$
 $5 - 2a^3$ $7 - 8a^3$

Q4

Round 2914.5 to 2 significant figures.

2900

Q5

Write the answer as a basic numeral.

$(6.3 \times 10^9) \div (8.4 \times 10^4) =$

75000

Q6

Simplify $(-a^3)^2$.

- a^2 a^6 a^3

Q7

Simplify $(2a^7bc^3)^4$.

- $16abc$ $16a^{28}b^4c^{12}$ $16a^{28}bc^{12}$

Q8

Evaluate: $5 \times (3a)^0 =$ 5

Q9

Evaluate: $-4 \times (-7a)^0 =$ -4

Q10

Simplify fully: $\frac{(4m^2)^2 - 2m^3 \times 2m}{3m^4}$

- $\frac{4}{3}$ $\frac{16m-4}{3m}$ 0 4

Q11

Simplify fully: $\frac{(3a^3)^2 + 2a^4 \times 3a^2}{(2a^2)^2}$

- $\frac{15a^2}{2}$ $\frac{9a^2}{4}$ $\frac{16a^2}{3}$ $\frac{15a^2}{4}$

Q12

Round 35672 to 3 significant figures.

35700

Q13

Round 38.1795 to 3 significant figures.

38.2

Q14

Write the answer in scientific notation correct to 3 significant figures.

$0.0052 \times 2.976 =$ $\times 10^{\text{$ -2
1.55

Q15

Write the answer in standard form correct to 3 significant figures.

$$479\,000 \times 43.95 = \boxed{} \times 10^{\boxed{}}$$

2.11

Q16

Simplify $(-3a^2b)^2$.

$-9a^4b^2$ $-6a^4$ $9a^4b^2$

Q17

Simplify $(8p^4q^3)^2$.

$64pq^6$ $64pq$ $64p^8q^6$

Q18

Simplify $(3a^2b^{-2})^2$.

$9a^2b^2$ $9a^4b^{-4}$ $9a^4b^4$

Q19

Select all the true statements.

$m^8 \div m^8 + m^0 = 2$

$a^6 \div a^6 + a^0 = 2a$

$3a^0 + (5a)^0 = 4$

$-4 \times (ab)^0 = -4$

Q20

Select all the true statements.

$(3a)^0 + 3a = 4a$

$m^5 \div m^5 + 4m^0 = 5$

$4p^0 + (4p)^0 = 5$

$4 \times (2a)^0 = 8$

Q21

Select all the true statements.

$8b^0 + (2b)^0 = 9$

$(9m)^0 - 9m^0 = -8$

$-6 \times (-2a)^0 = 12$

$p^4 \div p^4 - 2p^0 = -1$

Q22

Which statements are true?

$\frac{4p \times 3p^4}{2p^3} = 6p$

$\frac{5p^2 \times 2p^3}{3p^2} = \frac{10p^4}{3}$

$\frac{3a \times 8a^3}{6a^2} = 4a^2$

$\frac{2x \times 5x^4}{3x^2} = \frac{10x^3}{3}$

Q23

Which statements are true?

$\frac{4a \times (3a^2)^3}{(2a^3)^3} = \frac{27}{2a^2}$

$\frac{3x^2 \times (2x^2)^2}{3(x^2)^3} = 4$

$\frac{2b^2 \times (b^2)^2}{3b^3} = \frac{2b^3}{27}$

$\frac{5x^2 \times 2(x^2)^2}{(2x^3)^2} = \frac{5}{2}$

Q24

Which statements are true?

$\frac{(3x)^2 \times (2x^2)^4}{2x^2} = 72x^8$

$\frac{x^2 \times (3x^5)^2}{(4x^2)^2} = \frac{9x^8}{4}$

$\frac{3x^2 \times (4x^2)^3}{(x^2)^2} = 192x^4$

$\frac{2a^3 \times (2a^3)^2}{4a^2} = \frac{2a^7}{3}$

Q25

Write 98 275 000 in scientific notation correct to 2 significant figures.

9.8 $\times 10^{\text{$ 7

Q26

Write 0.029641 in scientific notation correct to 2 significant figures.

3.0 $\times 10^{\text{$ -2

Q27

Write 388 275 000 in standard form correct to 3 significant figures.

3.88 $\times 10^{\text{$ 8

Q28

The speed of light is 3×10^8 m/s. The distance (in km) light travels in 1 minute is

1.8×10^6 km 1.8×10^8 km

1.8×10^9 km 1.8×10^7 km

Q29

The speed of light is 3×10^8 m/s. The distance (in km) light travels in 1 hour is

1.08×10^{12} km 1.08×10^9 km

1.08×10^{11} km 1.08×10^{10} km

Q30

A US dime weighs 5.67×10^{-3} kg. During 2009 there were 146 million minted. The weight of all these coins would be closest to

830 tonnes 0.83 tonnes

83 tonnes 8.3 tonnes