



Significant Figures

Miscellaneous

SPTA Mathematics - Topic Questions with Notes



Rounding to Significant Figures

Example 1

446.586	→	Rounded to 1 significant figure is:	400
	→	Rounded to 2 significant figures is:	450
	→	Rounded to 3 significant figures is:	447
	→	Rounded to 4 significant figures is:	446.6

Example 2

0.00567	→	Rounded to 1 significant figure is:	0.006
	→	Rounded to 2 significant figures is:	0.0057

Exercise 1

1. Round to 1 significant figure :

(a) 23	(b) 5.5	(c) 78	(d) 31
(e) 125	(f) 309	(g) 291	(h) 843.6
(i) 7646	(j) 1928	(k) 8003	(l) 5192.7
(m) 10.9	(n) 556.2	(o) 3.98	(p) 12345
(q) 1.01	(r) 93	(s) 0.86	(t) 606

2. Round to 2 significant figures :

(a) 8.72	(b) 92.8	(c) 0.186	(d) 679
(e) 2.112	(f) 6.463	(g) 31.4	(h) 25.8
(i) 24.27	(j) 18.76	(k) 6397	(l) 4.99
(m) 0.0526	(n) 0.00613	(o) 0.08702	(p) 13814
(q) 2.456	(r) 45192	(s) 29.302	(t) 0.756

3. Round to 3 significant figures :

- | | | | |
|---------------------|------------------|--------------------|----------------------|
| a) 49.32 | (b) 2.345 | (c) 0.5928 | (d) 4765 |
| e) 6.081 | (f) 24180 | (g) 0.06281 | (h) 29.514 |
| i) 0.0094682 | (j) 56248 | (k) 0.09803 | (l) 24.47 |
| m) 28.32 | (n) 2463 | (o) 3174 | (p) 30.03 |
| q) 2.6759 | (r) 3085 | (s) 2.007 | (t) 0.0003175 |

4. Round 248382 correct to

- a)** 4 sig. figs **(b)** 3 sig. figs **(c)** 2 sig. figs **(d)** 1 sig. fig

5. Round 0.0286016 correct to

- a)** 4 sig. figs **(b)** 3 sig. figs **(c)** 2 sig. figs **(d)** 1 sig. fig

6. Calculate and give your answer correct to 2 significant figures

- | | | |
|---------------------------------------|--|---|
| a) 5.16×22.7 | (b) $27.3 \div 6.84$ | (c) 3.14×9^2 |
| d) $25.8 \times 1.76 \div 1.1$ | (e) 13.2×3.72 | (f) $25.8 \div 52.9$ |
| g) $1.14^2 \times 2.92$ | (h) $5.2 \times 0.49 \div 30.3$ | (i) $234 \div (0.028 \times 33)$ |
| j) $(0.08 \times 25^2) \div 3$ | (k) $(1.05)^2 \times 455$ | (l) $3.14 \times 12^2 \div 7$ |

7. Calculate and give your answer correct to 3 significant figures

- | | | |
|--|---------------------------------------|---|
| a) 2.29×58.1 | (b) $325.9 \div 68.2$ | (c) 3.14×18 |
| d) 0.08×12349 | (e) $3.7^2 \div 1.56$ | (f) $1001 \div 3$ |
| g) $12.7 \times (1.24 + 0.321)$ | (h) $0.13 \times 99 \div 0.49$ | (i) $0.77 \div (4.2 \times 1.9)$ |
| j) $(26.9 - 1.85) \times 13$ | (k) $60 \div 29$ | (l) $11 \times 2.6 \div 30$ |

8. The speed of light is approximately 8×10^5 times faster than the speed of sound in air. If the speed of sound in air is 372 metres per second, calculate the speed of light. Give your answer in **scientific notation correct to 3 significant figures**

Answers

Exercise 1

1. **a)** 20 **(b)** 6 **(c)** 80 **(d)** 30 **(e)** 100 **(f)** 300
 g) 300 **(h)** 800 **(i)** 8000 **(j)** 2000 **(k)** 8000 **(l)** 5000
 m) 11 **(n)** 600 **(o)** 4 **(p)** 10000 **(q)** 1 **(r)** 90
 s) 0.9 **(t)** 600
2. **a)** 8.7 **(b)** 93 **(c)** 0.19 **(d)** 680 **(e)** 2.1 **(f)** 6.5
 g) 31 **(h)** 26 **(i)** 24 **(j)** 19 **(k)** 6400 **(l)** 5.0
 m) 0.053 **(n)** 0.0061 **(o)** 0.087 **(p)** 14000 **(q)** 2.5 **(r)** 45000
 s) 29 **(t)** 0.76
3. **a)** 49.3 **(b)** 2.35 **(c)** 0.593 **(d)** 4770
 e) 6.08 **(f)** 24200 **(g)** 0.0628 **(h)** 29.5
 i) 0.00947 **(j)** 56200 **(k)** 0.0980 **(l)** 24.5
 m) 28.3 **(n)** 2460 **(o)** 3170 **(p)** 30.0
 q) 2.68 **(r)** 3090 **(s)** 2.01 **(t)** 0.000318
4. **a)** 248400 **(b)** 248000 **(c)** 250000 **(d)** 200000
5. **a)** 0.02860 **(b)** 0.0286 **(c)** 0.029 **(d)** 0.03
6. **a)** 120 **(b)** 4.0 **(c)** 250 **(d)** 41
 e) 49 **(f)** 0.49 **(g)** 3.8 **(h)** 0.084
 i) 250 **(j)** 17 **(k)** 500 **(l)** 65
7. **a)** 133 **(b)** 4.78 **(c)** 56.5 **(d)** 988
 e) 8.78 **(f)** 334 **(g)** 19.8 **(h)** 26.3
 i) 0.965 **(j)** 326 **(k)** 2.07 **(l)** 0.0965
8. 2.98×10^8