

# Positive Integers

$a$	$b$	$a + b$	$a - b$	$a \times b$	$a \div b$
8	2				
15		18			
20			16		
	5			75	
	6				2
		14			1

# Positive Integers

# Answers

$a$	$b$	$a + b$	$a - b$	$a \times b$	$a \div b$
8	2	10	6	16	4
15	3	18	12	45	5
20	4	24	16	80	5
15	5	18	10	75	3
12	6	18	6	72	2
7	7	14	0	49	1

# Negative Numbers

$a$	$b$	$a + b$	$a - b$	$a \times b$	$a \div b$
6	2				
6	-2				
-6	2				
-6	-2				
		-6	-10	-16	-4
			-6	16	4

# Negative Numbers

# Answers

$a$	$b$	$a + b$	$a - b$	$a \times b$	$a \div b$
6	2	<b>8</b>	<b>4</b>	<b>12</b>	<b>3</b>
6	-2	<b>4</b>	<b>8</b>	<b>-12</b>	<b>-3</b>
-6	2	<b>-4</b>	<b>-8</b>	<b>-12</b>	<b>-3</b>
-6	-2	<b>-8</b>	<b>-4</b>	<b>12</b>	<b>3</b>
<b>-8</b>	<b>2</b>	-6	-10	-16	-4
<b>-8</b>	<b>-2</b>	<b>-10</b>	-6	16	4

# Sum-Products - 1

$a$	$b$	$a + b$	$a - b$	$a \times b$	$a \div b$
		14		24	
		15		36	
		12		32	
		16		64	
			4	12	
			5	6	

# Sum-Products - 1

# Answers

$a$	$b$	$a + b$	$a - b$	$a \times b$	$a \div b$
<b>12</b>	<b>2</b>	14	<b>10</b>	24	<b>6</b>
<b>12</b>	<b>3</b>	15	<b>9</b>	36	<b>4</b>
<b>8</b>	<b>4</b>	12	<b>4</b>	32	<b>2</b>
<b>8</b>	<b>8</b>	16	<b>0</b>	64	<b>1</b>
<b>6</b>	<b>2</b>	<b>8</b>	4	12	<b>3</b>
<b>6</b>	<b>1</b>	<b>7</b>	5	6	<b>6</b>

# Sum-Products - 2

$a$	$b$	$a + b$	$a - b$	$a \times b$	$a \div b$
		18		72	
		6		-72	
		-6		-72	
			-6	72	
		11		-12	
			-24	-144	

# Sum-Products - 2

# Answers

$a$	$b$	$a + b$	$a - b$	$a \times b$	$a \div b$
<b>12</b>	<b>6</b>	18	<b>6</b>	72	<b>2</b>
<b>12</b>	<b>-6</b>	6	<b>18</b>	-72	<b>-2</b>
<b>-12</b>	<b>6</b>	-6	<b>-18</b>	-72	<b>-2</b>
<b>-12</b>	<b>-6</b>	<b>-18</b>	-6	72	<b>2</b>
<b>12</b>	<b>-1</b>	11	<b>13</b>	-12	<b>-12</b>
<b>-12</b>	<b>12</b>	<b>0</b>	<b>-24</b>	-144	<b>-1</b>



# Sum-Differences

$a$	$b$	$a + b$	$a - b$	$a \times b$	$a \div b$
		5	3		
		12	4		
		16	8		
		10	30		
		-5	-15		
		-6	-4		

# Sum-Differences

# Answers

$a$	$b$	$a + b$	$a - b$	$a \times b$	$a \div b$
<b>4</b>	<b>1</b>	5	3	<b>4</b>	<b>4</b>
<b>8</b>	<b>4</b>	12	4	<b>32</b>	<b>2</b>
<b>12</b>	<b>4</b>	16	8	<b>48</b>	<b>3</b>
<b>20</b>	<b>-10</b>	10	30	<b>-200</b>	<b>-2</b>
<b>-10</b>	<b>5</b>	-5	-15	<b>-50</b>	<b>-2</b>
<b>-5</b>	<b>-1</b>	-6	-4	<b>5</b>	<b>5</b>

# Product-Quotients

$a$	$b$	$a + b$	$a - b$	$a \times b$	$a \div b$
				45	5
				200	2
				-32	-8
				180	5
				48	3
				48	3

# Product-Quotients

# Answers

$a$	$b$	$a + b$	$a - b$	$a \times b$	$a \div b$
<b>15</b>	<b>3</b>	<b>18</b>	<b>12</b>	45	5
<b>20</b>	<b>10</b>	<b>30</b>	<b>10</b>	200	2
<b>16</b>	<b>-2</b>	<b>14</b>	<b>18</b>	-32	-8
<b>30</b>	<b>6</b>	<b>36</b>	<b>24</b>	180	5
<b>12</b>	<b>4</b>	<b>16</b>	<b>8</b>	48	3
<b>-12</b>	<b>-4</b>	<b>-16</b>	<b>-8</b>	48	3

# Square Numbers - 1

$a$	$b$	$a + b$	$a - b$	$a \times b$	$a \div b$
	8		0		
		8	0		
			0	9	
		1	0		
-8			0		
			0	$\frac{1}{9}$	

# Square Numbers - 1

# Answers

$a$	$b$	$a + b$	$a - b$	$a \times b$	$a \div b$
<b>8</b>	8	<b>16</b>	0	<b>64</b>	<b>1</b>
<b>4</b>	<b>4</b>	8	0	<b>16</b>	<b>1</b>
<b>3</b>	<b>3</b>	<b>6</b>	0	9	<b>1</b>
$\frac{1}{2}$	$\frac{1}{2}$	1	0	$\frac{1}{4}$	<b>1</b>
<b>-8</b>	<b>-8</b>	<b>-16</b>	0	<b>64</b>	<b>1</b>
$\frac{1}{3}$	$\frac{1}{3}$	$\frac{2}{3}$	0	$\frac{1}{9}$	<b>1</b>

# Square Numbers - 2

$a$	$b$	$a + b$	$a - b$	$a \times b$	$a \div b$
		3			1
				0.01	1
		-2			1
				-10000	-1
		$\frac{1}{2}$			1
				-0.36	-1

# Square Numbers - 2

## Answers

$a$	$b$	$a + b$	$a - b$	$a \times b$	$a \div b$
1.5	1.5	3	0	1	1
0.1	0.1	0.2	0	0.01	1
-1	-1	-2	0	1	1
100	-100	0	200	-10000	-1
$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{2}$	0	$\frac{1}{16}$	1
0.6	-0.6	0	1.2	-0.36	-1



# Decimals

$a$	$b$	$a + b$	$a - b$	$a \times b$	$a \div b$
0.4	0.1				
1.2	0.6				
0.5		2.5			
	1.5		-1.2		
0.12				0.0096	
	0.35				0.8

# Decimals

# Answers

$a$	$b$	$a + b$	$a - b$	$a \times b$	$a \div b$
0.4	0.1	0.5	0.3	0.04	4
1.2	0.6	1.8	0.6	0.72	2
0.5	2	2.5	-1.5	1	0.25
0.3	1.5	1.8	-1.2	0.45	0.2
0.12	0.08	0.2	0.04	0.0096	1.5
0.28	0.35	0.63	-0.07	0.098	0.8

# Fractions

<i>a</i>	<i>b</i>	<i>a + b</i>	<i>a - b</i>	<i>a × b</i>	<i>a ÷ b</i>
$\frac{3}{4}$	$\frac{2}{5}$				
	$\frac{2}{5}$	$\frac{3}{4}$			
	$\frac{2}{5}$		$\frac{3}{4}$		
	$\frac{2}{5}$			$\frac{3}{4}$	
	$\frac{2}{5}$				$\frac{3}{4}$
	$\frac{3}{4}$				$\frac{2}{5}$

# Fractions

# Answers

$a$	$b$	$a + b$	$a - b$	$a \times b$	$a \div b$
$\frac{3}{4}$	$\frac{2}{5}$	$\frac{23}{20}$	$\frac{7}{20}$	$\frac{3}{10}$	$\frac{15}{8}$
$\frac{7}{20}$	$\frac{2}{5}$	$\frac{3}{4}$	$-\frac{1}{20}$	$\frac{7}{50}$	$\frac{7}{8}$
$\frac{23}{20}$	$\frac{2}{5}$	$\frac{31}{20}$	$\frac{3}{4}$	$\frac{23}{50}$	$\frac{23}{8}$
$\frac{15}{8}$	$\frac{2}{5}$	$\frac{91}{40}$	$\frac{59}{40}$	$\frac{3}{4}$	$\frac{75}{16}$
$\frac{3}{10}$	$\frac{2}{5}$	$\frac{7}{10}$	$-\frac{1}{10}$	$\frac{3}{25}$	$\frac{3}{4}$
$\frac{3}{10}$	$\frac{3}{4}$	$\frac{21}{20}$	$-\frac{9}{20}$	$\frac{9}{40}$	$\frac{2}{5}$

# Fractions Generalising - 1

$a$	$b$	$a + b$	$a - b$	$a \times b$	$a \div b$
$\frac{3}{5}$	$\frac{8}{15}$				
$\frac{3}{7}$	$\frac{8}{21}$				
$\frac{3}{11}$	$\frac{8}{33}$				
$\frac{3}{13}$			$\frac{1}{39}$		
$\frac{3}{n}$					$\frac{9}{8}$

# Fractions Generalising - 1

# Answers

$a$	$b$	$a + b$	$a - b$	$a \times b$	$a \div b$
$\frac{3}{5}$	$\frac{8}{15}$	$\frac{17}{15}$	$\frac{1}{15}$	$\frac{8}{25}$	$\frac{9}{8}$
$\frac{3}{7}$	$\frac{8}{21}$	$\frac{17}{21}$	$\frac{1}{21}$	$\frac{8}{49}$	$\frac{9}{8}$
$\frac{3}{11}$	$\frac{8}{33}$	$\frac{17}{33}$	$\frac{1}{33}$	$\frac{8}{121}$	$\frac{9}{8}$
$\frac{3}{13}$	$\frac{8}{39}$	$\frac{17}{39}$	$\frac{1}{39}$	$\frac{8}{169}$	$\frac{9}{8}$
$\frac{3}{n}$	$\frac{8}{3n}$	$\frac{17}{3n}$	$\frac{1}{3n}$	$\frac{8}{n^2}$	$\frac{9}{8}$

# Fractions Generalising - 2

$a$	$b$	$a + b$	$a - b$	$a \times b$	$a \div b$
$\frac{5}{7}$	$\frac{9}{14}$				
$\frac{5}{8}$		$\frac{19}{16}$			
$\frac{5}{11}$			$\frac{1}{22}$		
$\frac{5}{2}$				$\frac{45}{8}$	
$\frac{5}{n}$					$\frac{10}{9}$

# Fractions Generalising - 2

## Answers

$a$	$b$	$a + b$	$a - b$	$a \times b$	$a \div b$
$\frac{5}{7}$	$\frac{9}{14}$	$\frac{19}{14}$	$\frac{1}{14}$	$\frac{45}{98}$	$\frac{10}{9}$
$\frac{5}{8}$	$\frac{9}{16}$	$\frac{19}{16}$	$\frac{1}{16}$	$\frac{45}{128}$	$\frac{10}{9}$
$\frac{5}{11}$	$\frac{9}{22}$	$\frac{19}{22}$	$\frac{1}{22}$	$\frac{45}{242}$	$\frac{10}{9}$
$\frac{5}{2}$	$\frac{9}{4}$	$\frac{19}{4}$	$\frac{1}{4}$	$\frac{45}{8}$	$\frac{10}{9}$
$\frac{5}{n}$	$\frac{9}{2n}$	$\frac{19}{2n}$	$\frac{1}{2n}$	$\frac{45}{2n^2}$	$\frac{10}{9}$



# Fractions Generalising - 3

$a$	$b$	$a + b$	$a - b$	$a \times b$	$a \div b$
		$\frac{12}{35}$	$\frac{2}{35}$		
				$\frac{8}{35}$	$\frac{14}{5}$
		$\frac{78}{35}$		$\frac{27}{35}$	
			$\frac{92}{35}$		$\frac{28}{5}$
$\frac{n^2}{5}$					$\frac{7n}{5}$

# Fractions Generalising - 3

## Answers

$a$	$b$	$a + b$	$a - b$	$a \times b$	$a \div b$
$\frac{1}{5}$	$\frac{1}{7}$	$\frac{12}{35}$	$\frac{2}{35}$	$\frac{1}{35}$	$\frac{7}{5}$
$\frac{4}{5}$	$\frac{2}{7}$	$\frac{38}{35}$	$\frac{18}{35}$	$\frac{8}{35}$	$\frac{14}{5}$
$\frac{9}{5}$	$\frac{3}{7}$	$\frac{78}{35}$	$\frac{48}{35}$	$\frac{27}{35}$	$\frac{21}{5}$
$\frac{16}{5}$	$\frac{4}{7}$	$\frac{132}{35}$	$\frac{92}{35}$	$\frac{64}{35}$	$\frac{28}{5}$
$\frac{n^2}{5}$	$\frac{n}{7}$	$\frac{n(7n+5)}{35}$	$\frac{n(7n-5)}{35}$	$\frac{n^3}{35}$	$\frac{7n}{5}$

# Standard Form - 1

<i>a</i>	<i>b</i>	<i>a + b</i>	<i>a - b</i>	<i>a × b</i>	<i>a ÷ b</i>
$6 \times 10^{17}$	$2 \times 10^{17}$				
	$2 \times 10^{17}$	$6 \times 10^{17}$			
	$2 \times 10^{17}$		$6 \times 10^{17}$		
	$2 \times 10^{17}$			$6 \times 10^{34}$	
	$2 \times 10^{17}$				6
$6 \times 10^{18}$	$2 \times 10^{17}$				

# Standard Form - 1

# Answers

$a$	$b$	$a + b$	$a - b$	$a \times b$	$a \div b$
$6 \times 10^{17}$	$2 \times 10^{17}$	$8 \times 10^{17}$	$4 \times 10^{17}$	$1.2 \times 10^{35}$	3
$4 \times 10^{17}$	$2 \times 10^{17}$	$6 \times 10^{17}$	$2 \times 10^{17}$	$8 \times 10^{34}$	2
$8 \times 10^{17}$	$2 \times 10^{17}$	$1 \times 10^{18}$	$6 \times 10^{17}$	$1.6 \times 10^{35}$	4
$3 \times 10^{17}$	$2 \times 10^{17}$	$5 \times 10^{17}$	$1 \times 10^{17}$	$6 \times 10^{34}$	1.5
$1.2 \times 10^{18}$	$2 \times 10^{17}$	$1.4 \times 10^{18}$	$1 \times 10^{18}$	$2.4 \times 10^{35}$	6
$6 \times 10^{18}$	$2 \times 10^{17}$	$6.2 \times 10^{18}$	$5.8 \times 10^{18}$	$1.2 \times 10^{36}$	30

# Standard Form - 2

<i>a</i>	<i>b</i>	<i>a + b</i>	<i>a - b</i>	<i>a × b</i>	<i>a ÷ b</i>
$4 \times 10^{-13}$	$5 \times 10^{-14}$				
	$5 \times 10^{-14}$	$4 \times 10^{-13}$			
	$5 \times 10^{-14}$		$4 \times 10^{-13}$		
	$5 \times 10^{-14}$			$4 \times 10^{-26}$	
	$5 \times 10^{-14}$				4
$4 \times 10^{-12}$	$5 \times 10^{-14}$				

# Standard Form - 2

# Answers

$a$	$b$	$a + b$	$a - b$	$a \times b$	$a \div b$
$4 \times 10^{-13}$	$5 \times 10^{-14}$	$4.5 \times 10^{-13}$	$3.5 \times 10^{-13}$	$2 \times 10^{-26}$	8
$3.5 \times 10^{-13}$	$5 \times 10^{-14}$	$4 \times 10^{-13}$	$3 \times 10^{-13}$	$1.75 \times 10^{-26}$	7
$4.5 \times 10^{-13}$	$5 \times 10^{-14}$	$5 \times 10^{-13}$	$4 \times 10^{-13}$	$2.25 \times 10^{-26}$	9
$8 \times 10^{-13}$	$5 \times 10^{-14}$	$8.5 \times 10^{-13}$	$7.5 \times 10^{-13}$	$4 \times 10^{-26}$	16
$2 \times 10^{-13}$	$5 \times 10^{-14}$	$2.5 \times 10^{-13}$	$1.5 \times 10^{-13}$	$1 \times 10^{-26}$	4
$4 \times 10^{-12}$	$5 \times 10^{-14}$	$4.05 \times 10^{-12}$	$3.95 \times 10^{-12}$	$2 \times 10^{-25}$	80

# Prime Factorisations

$a$	$b$	$a + b$	$a - b$	$a \times b$	$a \div b$
$2^5 \times 3^8 \times 5^3$	$2^4 \times 3^8 \times 5^3$	$(2 + 1) \times 2^4 \times 3^8 \times 5^3$ $= 2^4 \times 3^9 \times 5^3$	$(2 - 1) \times 2^4 \times 3^8 \times 5^3$ $= 2^4 \times 3^8 \times 5^3$	$2^9 \times 3^{16} \times 5^6$	2
$2^4 \times 3^9 \times 5^3$	$2^4 \times 3^8 \times 5^3$				
	$2^4 \times 3^8 \times 5^3$	$2^5 \times 3^9 \times 5^3$			
	$2^4 \times 3^8 \times 5^3$		$2^4 \times 3^9 \times 5^3$		
	$2^4 \times 3^8 \times 5^3$			$2^9 \times 3^{17} \times 5^6$	
	$2^4 \times 3^8 \times 5^3$				$3^2$

# Prime Factorisations

# Answers

$a$	$b$	$a + b$	$a - b$	$a \times b$	$a \div b$
$2^5 \times 3^8 \times 5^3$	$2^4 \times 3^8 \times 5^3$	$(2 + 1) \times 2^4 \times 3^8 \times 5^3$ $= 2^4 \times 3^9 \times 5^3$	$(2 - 1) \times 2^4 \times 3^8 \times 5^3$ $= 2^4 \times 3^8 \times 5^3$	$2^9 \times 3^{16} \times 5^6$	2
$2^4 \times 3^9 \times 5^3$	$2^4 \times 3^8 \times 5^3$	$(3 + 1) \times 2^4 \times 3^8 \times 5^3$ $= 2^6 \times 3^8 \times 5^3$	$(3 - 1) \times 2^4 \times 3^8 \times 5^3$ $= 2^5 \times 3^8 \times 5^3$	$2^8 \times 3^{17} \times 5^6$	3
$2^4 \times 3^8 \times 5^4$	$2^4 \times 3^8 \times 5^3$	$(5 + 1) \times 2^4 \times 3^8 \times 5^3$ $= 2^5 \times 3^9 \times 5^3$	$(5 - 1) \times 2^4 \times 3^8 \times 5^3$ $= 2^6 \times 3^8 \times 5^3$	$2^8 \times 3^{16} \times 5^7$	5
$2^6 \times 3^8 \times 5^3$	$2^4 \times 3^8 \times 5^3$	$(4 + 1) \times 2^4 \times 3^8 \times 5^3$ $= 2^4 \times 3^8 \times 5^4$	$(4 - 1) \times 2^4 \times 3^8 \times 5^3$ $= 2^4 \times 3^9 \times 5^3$	$2^{10} \times 3^{16} \times 5^6$	$2^2$
$2^5 \times 3^9 \times 5^3$	$2^4 \times 3^8 \times 5^3$	$(6 + 1) \times 2^4 \times 3^8 \times 5^3$ $= 2^4 \times 3^8 \times 5^3 \times 7$	$(6 - 1) \times 2^4 \times 3^8 \times 5^3$ $= 2^4 \times 3^8 \times 5^4$	$2^9 \times 3^{17} \times 5^6$	$2 \times 3$
$2^4 \times 3^{10} \times 5^3$	$2^4 \times 3^8 \times 5^3$	$(9 + 1) \times 2^4 \times 3^8 \times 5^3$ $= 2^5 \times 3^8 \times 5^4$	$(9 - 1) \times 2^4 \times 3^8 \times 5^3$ $= 2^7 \times 3^8 \times 5^3$	$2^8 \times 3^{18} \times 5^6$	$3^2$



# Prime Factorisations

# Answers

$a$	$b$	$a + b$	$a - b$	$a \times b$	$a \div b$
$2^5 \times 3^8 \times 5^3$	$2^4 \times 3^8 \times 5^3$	$2^4 \times 3^9 \times 5^3$	$2^4 \times 3^8 \times 5^3$	$2^9 \times 3^{16} \times 5^6$	2
$2^4 \times 3^9 \times 5^3$	$2^4 \times 3^8 \times 5^3$	$2^6 \times 3^8 \times 5^3$	$2^5 \times 3^8 \times 5^3$	$2^8 \times 3^{17} \times 5^6$	3
$2^4 \times 3^8 \times 5^4$	$2^4 \times 3^8 \times 5^3$	$2^5 \times 3^9 \times 5^3$	$2^6 \times 3^8 \times 5^3$	$2^8 \times 3^{16} \times 5^7$	5
$2^6 \times 3^8 \times 5^3$	$2^4 \times 3^8 \times 5^3$	$2^4 \times 3^8 \times 5^4$	$2^4 \times 3^9 \times 5^3$	$2^{10} \times 3^{16} \times 5^6$	$2^2$
$2^5 \times 3^9 \times 5^3$	$2^4 \times 3^8 \times 5^3$	$2^4 \times 3^8 \times 5^3 \times 7$	$2^4 \times 3^8 \times 5^4$	$2^9 \times 3^{17} \times 5^6$	$2 \times 3$
$2^4 \times 3^{10} \times 5^3$	$2^4 \times 3^8 \times 5^3$	$2^5 \times 3^8 \times 5^4$	$2^7 \times 3^8 \times 5^3$	$2^8 \times 3^{18} \times 5^6$	$3^2$

# Prime Factorisations

**Answers**

$a$	$b$	$a + b$	$a - b$
$2^5 \times 3^8 \times 5^3$	$2^4 \times 3^8 \times 5^3$	$2^4 \times 3^9 \times 5^3$	$2^4 \times 3^8 \times 5^3$
$2^4 \times 3^9 \times 5^3$	$2^4 \times 3^8 \times 5^3$	$2^6 \times 3^8 \times 5^3$	$2^5 \times 3^8 \times 5^3$
$2^4 \times 3^8 \times 5^4$	$2^4 \times 3^8 \times 5^3$	$2^5 \times 3^9 \times 5^3$	$2^6 \times 3^8 \times 5^3$
$2^6 \times 3^8 \times 5^3$	$2^4 \times 3^8 \times 5^3$	$2^4 \times 3^8 \times 5^4$	$2^4 \times 3^9 \times 5^3$
$2^5 \times 3^9 \times 5^3$	$2^4 \times 3^8 \times 5^3$	$2^4 \times 3^8 \times 5^3 \times 7$	$2^4 \times 3^8 \times 5^4$

# Lengths and Areas (use sensible units)

$a$	$b$	$a + b$	$a - b$	$a \times b$	$a \div b$
12 cm	4 cm	16 cm	8 cm	48 cm <sup>2</sup>	3
15 m	3 m				
1 m	25 cm				
7 cm		84 mm			
	15 mm		7.5 cm		
			225 cm	2.25 m <sup>2</sup>	4

# Lengths and Areas (use sensible units)

## Answers

$a$	$b$	$a + b$	$a - b$	$a \times b$	$a \div b$
12 cm	4 cm	16 cm	8 cm	48 cm <sup>2</sup>	3
15 m	3 m	<b>18 m</b>	<b>12 m</b>	<b>45 m<sup>2</sup></b>	<b>5</b>
1 m	25 cm	<b>125 cm</b>	<b>75 cm</b>	<b>0.25 m<sup>2</sup></b>	<b>4</b>
7 cm	<b>14 mm</b>	84 mm	<b>56 mm</b>	<b>9.8 cm<sup>2</sup></b>	<b>5</b>
<b>9 cm</b>	15 mm	<b>105 mm</b>	7.5 cm	<b>13.5 cm<sup>2</sup></b>	<b>6</b>
<b>3 m</b>	<b>75 cm</b>	<b>375 cm</b>	225 cm	2.25 m <sup>2</sup>	4

# Surds

$a$	$b$	$a + b$	$a - b$	$a \times b$	$a \div b$
$\sqrt{72}$	$\sqrt{8}$				
	$\sqrt{8}$	$\sqrt{72}$			
	$\sqrt{8}$		$\sqrt{72}$		
	$\sqrt{48}$	$\sqrt{300}$			
		$\sqrt{300}$	$\sqrt{48}$		
		$\sqrt{300}$		48	

# Surds

# Answers

$a$	$b$	$a + b$	$a - b$	$a \times b$	$a \div b$
$\sqrt{72}$	$\sqrt{8}$	$\sqrt{128}$	$\sqrt{32}$	24	3
$\sqrt{32}$	$\sqrt{8}$	$\sqrt{72}$	$\sqrt{8}$	16	2
$\sqrt{128}$	$\sqrt{8}$	$\sqrt{200}$	$\sqrt{72}$	32	4
$\sqrt{108}$	$\sqrt{48}$	$\sqrt{300}$	$\sqrt{12}$	72	$\frac{3}{2}$
$\sqrt{147}$	$\sqrt{27}$	$\sqrt{300}$	$\sqrt{48}$	63	$\frac{7}{3}$
$\sqrt{192}$	$\sqrt{12}$	$\sqrt{300}$	$\sqrt{108}$	48	4

# Algebraic Expressions

$a$	$b$	$a + b$	$a - b$	$a \times b$	$a \div b$
$6x$	$2$				
$6x$	$2x$				
	$2$			$12x^2$	
	$2$		$6x$		
		$6x^2 + 2x$	$6x^2 - 2x$		
		$8x^2$		$12x^4$	

# Algebraic Expressions

# Answers

$a$	$b$	$a + b$	$a - b$	$a \times b$	$a \div b$
$6x$	$2$	$6x + 2$	$6x - 2$	$12x$	$3x$
$6x$	$2x$	$8x$	$4x$	$12x^2$	$3$
$6x^2$	$2$	$6x^2 + 2$	$6x^2 - 2$	$12x^2$	$3x^2$
$6x + 2$	$2$	$6x + 4$	$6x$	$12x + 4$	$3x + 1$
$6x^2$	$2x$	$6x^2 + 2x$	$6x^2 - 2x$	$12x^3$	$3x$
$6x^2$	$2x^2$	$8x^2$	$4x^2$	$12x^4$	$3$



**Impossible!** For each row, explain why it is impossible to complete.

$a$	$b$	$a + b$	$a - b$	$a \times b$	$a \div b$
0					8
	0			8	
		0		8	
			0		8
			8		1
				72	-8

# Zeroes

 For each row, fill in what you know for certain.

$a$	$b$	$a + b$	$a - b$	$a \times b$	$a \div b$
0	$x$				
$x$	0				
$x$		0			
$x$			0		
				0	
	$x$				0

# Zeroes

For each row, fill in what you know for certain.

# Answers

$a$	$b$	$a + b$	$a - b$	$a \times b$	$a \div b$
0	$x$	$x$	$-x$	0	0
$x$	0	$x$	$x$	0	!!
$x$	$-x$	0	$2x$	$-x^2$	$-1$
$x$	$x$	$2x$	0	$x^2$	1
				0	
0	$x$	$x$	$-x$	0	0

# Recurring Decimals

<i>a</i>	<i>b</i>	<i>a + b</i>	<i>a - b</i>	<i>a × b</i>	<i>a ÷ b</i>
0.5̇	0.2				
0.2̇	0.5				
0.3̇	0.3̇				
0.6̇	0.3̇				
1	0.1̇				
0.6̇	0.06̇				

# Recurring Decimals

# Answers

$a$	$b$	$a + b$	$a - b$	$a \times b$	$a \div b$
$0.\dot{5}$	$0.2$	$0.\dot{7}5$	$0.\dot{3}5$	$0.\dot{1}$	$2.\dot{7}$
$0.\dot{2}$	$0.5$	$0.\dot{7}2$	$-0.\dot{2}7$	$0.\dot{1}$	$0.\dot{4}$
$0.\dot{3}$	$0.\dot{3}$	$0.\dot{6}$	$0$	$0.\dot{1}$	$1$
$0.\dot{6}$	$0.\dot{3}$	$1$	$0.\dot{3}$	$0.\dot{2}$	$2$
$1$	$0.\dot{1}$	$1.\dot{1}$	$0.\dot{8}$	$0.\dot{1}$	$9$
$0.\dot{6}$	$0.0\dot{6}$	$0.7\dot{3}$	$0.06$	$0.0\dot{4}$	$10$