

# Dividing Monomials

## Codebreaker



A	B	C	D	E	F	G	H	I	J	K	L	M
$6x^{17}y^{12}$	$2y^5$	$x^4$	$2x^3y^4$	$x^{-2}$	$y^5$	$y^{-8}$	$x^5y^{-4}$	$x^2$	$2x^3y$	$xy^2$	$y^8$	$xy$
N	O	P	Q	R	S	T	U	V	W	X	Y	Z
$4y^{-3}$	$\frac{x^4}{y^2}$	$x^2y$	$\frac{1}{x^4}$	$\frac{-x^8}{2y^2}$	$2x^2y$	$5xy^2$	$-x^{-2}$	$x^8$	$\frac{1}{x^5}$	$\frac{y^2}{x^4}$	$4y^3$	$x^7y^7$

Divide each monomial question below. Match your answer to a letter in the table above to complete the code in the five boxes at the bottom.

- $\frac{y^8}{y^3}$
- $\frac{y^{17}}{y^9}$
- $\frac{x^4y^2}{x^2y}$
- $\frac{x^7y^3}{x^3y^3}$
- $\frac{x^{11}y^9}{x^4y^2}$
- $\frac{8x^4y^6}{4xy^5}$
- $\frac{42x^{19}y^{17}}{7x^2y^5}$
- $\frac{x^4}{x^9}$
- $\frac{x^{15}}{x^{17}}$
- $\frac{5(xy)(xy^3)}{xy^2}$
- $\frac{x^7y^4}{x^{11}y^2}$
- $\frac{x^9y^8}{x^4y^2}$
- $\frac{8x^{11}y^6}{2x^{11}y^9}$
- $\frac{-4(x^2y^3)(x^2)^3}{8y^5}$
- $\frac{10(xy)^2(xy^3)}{5y}$



1

2

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13

14

15



# SOLUTION

## Dividing Monomials Codebreaker

A	B	C	D	E	F	G	H	I	J	K	L	M
$6x^{17}y^{12}$	$2y^5$	$x^4$	$2x^3y^4$	$x^{-2}$	$y^5$	$y^{-8}$	$x^5y^{-4}$	$x^2$	$2x^3y$	$xy^2$	$y^8$	$xy$
N	O	P	Q	R	S	T	U	V	W	X	Y	Z
$4y^{-3}$	$\frac{x^4}{y^2}$	$x^2y$	$\frac{1}{x^4}$	$\frac{-x^8}{2y^2}$	$2x^2y$	$5xy^2$	$-x^{-2}$	$x^8$	$\frac{1}{x^5}$	$\frac{y^2}{x^4}$	$4y^3$	$x^7y^7$

Divide each monomial question below. Match your answer to a letter in the table above to complete the code in the five boxes at the bottom.

- |    |                            |    |                                  |    |                                 |    |                                  |    |                             |
|----|----------------------------|----|----------------------------------|----|---------------------------------|----|----------------------------------|----|-----------------------------|
| 1  | $\frac{y^8}{y^3}$          | 2  | $\frac{y^{17}}{y^9}$             | 3  | $\frac{x^4y^2}{x^2y}$           | 4  | $\frac{x^7y^3}{x^3y^3}$          | 5  | $\frac{x^{11}y^9}{x^4y^2}$  |
|    | $y^5$                      |    | $y^8$                            |    | $x^2y$                          |    | $x^4$                            |    | $x^7y^7$                    |
| 6  | $\frac{8x^4y^6}{4xy^5}$    | 7  | $\frac{42x^{19}y^{17}}{7x^2y^5}$ | 8  | $\frac{x^4}{x^9}$               | 9  | $\frac{x^{15}}{x^{17}}$          | 10 | $\frac{5(xy)(xy^3)}{xy^2}$  |
|    | $2x^3y$                    |    | $6x^{17}y^{12}$                  |    | $\frac{1}{x^5}$                 |    | $x^{-2}$                         |    | $5xy^2$                     |
| 11 | $\frac{x^7y^4}{x^{11}y^2}$ | 12 | $\frac{x^9y^8}{x^4y^{12}}$       | 13 | $\frac{8x^{11}y^6}{2x^{11}y^9}$ | 14 | $\frac{-4(x^2y^3)(x^2)^3}{8y^5}$ | 15 | $\frac{10(xy)^2(xy^3)}{5y}$ |
|    | $\frac{y^2}{x^4}$          |    | $x^5y^{-4}$                      |    | $4y^{-3}$                       |    | $\frac{-x^8}{2y^2}$              |    | $2x^3y^4$                   |



F - L - P   C - Z - J   A - W - E   T - X - H   N - R - D





# Other free math resources you are welcome to download

## MULTIPLYING EXPONENTS

Click here to download this free exponents code breaker activity - no strings attached! Goes straight to download.

## Multiplying Exponents Code Breaker

**Multiplying Monomials Codebreaker**

A	B	C	D	E	F	G	H	I	J	K	L	M
$a^2$	$a^3$	$10a$	$15a^2$	$a^4$	$a^5$	$a^6$	$23a^2$	$a^7$	$13a^3$	$20a^2$	$8a^2$	$a^8$
$a^2$	$a^3$	$20a^2$	$a^4$	$a^5$	$8a$	$a^6$	$10a^2$	$12a^2$	$a^3$	$a^4$	$a^5$	$15a^2$

Work out the questions below. Match your answer to a letter in the table above to complete the code in the five boxes at the bottom.

- $(a^2)^3$
- $600a^5$
- $(a^3)^4$
- $(a^2)^3(a^4)^2$
- $(a^2)^3(a^4)^2$
- $(1a^2)(5a^2)$
- $(2a^2)(5a^2)$
- $(1a^2)(4a^2)$
- $(10a^2)(5a^2)$
- $(20a^2)^2(a^2)^2$
- $4(a^2)^3(a^2)^4$
- $a^2$
- $3(2a^2)^2$
- $(10a^2)^2$
- $(10a^2)^2$

**T-M-Q B-O-D Z-H-K P-J-A V-R-N**

Ten Tens Math

<https://tentorsmath.com/multiplying-monomials-codebreaker-activity/>

## QUOTIENTS OF ROOTS

Click here to download this free dividing radicals codebreaker activity - no strings attached! Goes straight to download.

## Dividing Radicals Code Breaker

**Dividing Radicals Codebreaker**

A	B	C	D	E	F	G	H	I	J	K	L	M
4	6	2	$\sqrt{6}$	3	$\sqrt{2}$	$\sqrt{18}$	$3\sqrt{2}$	7	$\sqrt{3}$	$\frac{1}{2}$	$\sqrt{7}$	
$\sqrt{5}$	$2\sqrt{3}$	8	$\frac{\sqrt{2}}{2}$	5	$\frac{5}{2}$	3	5 $\sqrt{7}$	$\frac{1}{2}$	$\frac{1}{2}$	$5\sqrt{7}$	18	

Work out the questions below. Match your answer to a letter in the table above to complete the code in the five boxes at the bottom.

- $\frac{\sqrt{18}}{\sqrt{2}}$
- $\frac{\sqrt{15}}{\sqrt{6}}$
- $\frac{\sqrt{12}}{\sqrt{3}}$
- $\sqrt{15} + \sqrt{5}$
- $\sqrt{2} = \sqrt{2}$
- $\sqrt{21} + \sqrt{3}$
- $3\sqrt{28} + \sqrt{7}$
- $\sqrt{48} + \sqrt{8}$
- $\frac{3\sqrt{18}}{\sqrt{2}}$
- $\frac{16\sqrt{27}}{\sqrt{3}}$
- $\frac{\sqrt{18}\sqrt{2}}{\sqrt{6}}$
- $\frac{\sqrt{14}\sqrt{7}}{7}$
- $\frac{\sqrt{28}\sqrt{5}}{\sqrt{2}}$
- $\sqrt{\frac{1}{2}}$
- $\frac{\sqrt{2}}{\sqrt{2}}$

**N-F-C K-V-M B-D-A Z-P-J T-L-R**

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## MULTIPLYING ROOTS

Click here to download this free radicals code breaker activity - no strings attached! Goes straight to download.

## Multiplying Roots Code Breaker

**Products of Roots Codebreaker**

A	B	C	D	E	F	G	H	I	J	K	L	M
54	$8\sqrt{12}$	$2\sqrt{6}$	9	$\sqrt{12}$	20	$\sqrt{6}$	$8\sqrt{6}$	12	$16\sqrt{15}$	$20\sqrt{15}$	6	55
$\sqrt{15}$	25	$8\sqrt{3}$	4	$\sqrt{15}$	$4\sqrt{11}$	$3\sqrt{6}$	$\sqrt{18}$	36	$9\sqrt{15}$	9	$2\sqrt{2}$	68

Work out the questions below. Match your answer to a letter in the table above to complete the code in the five boxes at the bottom.

- $\sqrt{2} \times \sqrt{3}$
- $\sqrt{3} \times \sqrt{7}$
- $\sqrt{3} \times \sqrt{3}$
- $\sqrt{2} \times \sqrt{8}$
- $\sqrt{2} \times \sqrt{12}$
- $\sqrt{6} \times \sqrt{27}$
- $3\sqrt{2} \times 2\sqrt{18}$
- $4\sqrt{3} \times 5\sqrt{3}$
- $6\sqrt{2} \times 3\sqrt{2}$
- $\sqrt{2} \times \sqrt{3} \times \sqrt{15}$
- $3\sqrt{3} \times 2\sqrt{12}$
- $3\sqrt{5} \times 2\sqrt{5}$
- $3\sqrt{6} \times 2\sqrt{6}$
- $\sqrt{3} \times \sqrt{6} \times \sqrt{6}$
- $2\sqrt{2} \times 4\sqrt{18}$

**G-N-X Q-L-D V-K-B P-A-J F-I-Z**

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## POWERS AND EXPONENTS PUZZLE

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## Powers & Exponents

Puzzle

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## Multiplying Decimals CODE BREAKER GAME

### Multiplying Decimals Code Breaker

A	B	C	D	E	F	G	H	I	J	K	L	M
2.302	0.547	15.8	1.033	0.476	3.88	6.103	1.08	1.442	0.707	0.12	0.63	0.018
N	O	P	Q	R	S	T	U	V	W	X	Y	Z
1.23	0.0416	0.779	4.23	8.52	3.146	12.4	16.2	5.4	0.0057	49	0.086	0.573

Work out the decimal multiplications, link your answers to the table above to complete the code in the four boxes at the bottom.

1  $9.2 \times 5$   
46

2  $3.6 \times 4$   
14.4

3  $7.9 \times 2$   
15.8

4  $0.4 \times 0.3$   
0.12

5  $0.7 \times 0.9$   
0.63

6  $0.03 \times 0.6$   
0.0018

7  $0.05 \times 0.07$   
0.0035

8  $3.6 \times 0.3$   
1.08

9  $7.4 \times 0.006$   
0.0444

10  $8.7 \times 7.9$   
68.73

11  $0.14 \times 3.4$   
0.476

12  $0.74 \times 0.24$   
0.1776

**X-T-C** **K-L-M** **W-H-O** **Z-E-P**

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[Multiplying Decimals](#)

## GCF and LCM CODE BREAKER GAME

### GCF and LCM Code Breaker

A	B	C	D	E	F	G	H	I	J	K	L	M
3	7	25	12	11	24	36	45	69	14	16	29	31
N	O	P	Q	R	S	T	U	V	W	X	Y	Z
55	150	84	15	9	10	30	66	6	13	19	0	8

Find the GCF or LCM for these questions, link them to the table above to complete the code in the four boxes at the bottom.

1 GCF of 18 and 30  
6

2 GCF of 25 and 60  
5

3 GCF of 36 and 90  
18

4 LCM of 8 and 12  
24

5 LCM of 10 and 60  
60

6 GCF of 16, 32 and 40  
8

7 LCM of 21 and 28  
84

8 LCM of 2, 6 and 11  
66

9 GCF of 36, 60 and 84  
12

10 GCF of 75 and 350  
25

11 LCM of 50 and 75  
150

12 GCF of 39 and 52  
13

**V-A-X** **F-I-Z** **P-U-D** **C-O-W**

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[GCF LCM](#)

## PRIME FACTOR FORM CODE BREAKER GAME

### Prime Number Code Breaker

A	B	C	D	E	F	G	H	I	J	K	L	M
2	3	5	7	11	13	17	19	23	29	31	37	41
N	O	P	Q	R	S	T	U	V	W	X	Y	Z
43	47	53	59	67	71	73	79	83	89	97	101	103

Write the numbers below as a product of primes, link them to the table above to complete the code in the four boxes at the bottom.

1 140  
 $2^2 \times 5 \times 7$

2 168  
 $2^3 \times 3 \times 7$

3 550  
 $2 \times 5^2 \times 11$

4 210  
 $2 \times 3 \times 5 \times 7$

5 336  
 $2^4 \times 3 \times 7$

6 2625  
 $3 \times 5^3 \times 7$

7 306  
 $2 \times 3^3 \times 17$

8 735  
 $3 \times 5 \times 7^2$

9 1144  
 $2^3 \times 11 \times 13$

10 396  
 $2^2 \times 3^2 \times 11$

11 6006  
 $2 \times 3 \times 7 \times 11 \times 13$

12 484  
 $2^2 \times 11^2$

**Z-O-M** **B-A-G** **L-I-D** **X-E-C**

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[Prime Factors](#)

## Multiplying Integers CODE BREAKER GAME

### Multiplying Integers Code Breaker

A	B	C	D	E	F	G	H	I	J	K	L	M
196	192	170	292	258	358	122	360	144	244	107	178	204
N	O	P	Q	R	S	T	U	V	W	X	Y	Z
498	138	266	145	364	286	272	440	68	254	81	118	606

Simplify the exponents above, link them to the answers in the table above to complete the code in the four boxes at the bottom.

1  $3 \times 27$   
81

2  $6 \times 43$   
258

3  $2 \times 89$   
178

4  $5 \times 34$   
170

5  $3 \times 66$   
198

6  $4 \times 73$   
292

7  $2 \times 96$   
192

8  $7 \times 52$   
364

9  $6 \times 23$   
138

10  $6 \times 83$   
498

11  $8 \times 18$   
144

12  $7 \times 38$   
266

**X-E-L** **C-A-D** **B-R-O** **N-I-P**

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[Multiplying Integers](#)

## Add & Subtract Decimals CODE BREAKER GAME

### Adding & Subtracting Decimals Code Breaker

A	B	C	D	E	F	G	H	I	J	K	L	M
14.24	2.59	17.31	3.1	13.84	41.3	19.24	9.26	9.82	6.66	15.14	14.57	17.08
N	O	P	Q	R	S	T	U	V	W	X	Y	Z
14.21	2.908	1.79	4.11	9.71	9.87	2.65	18.11	3.6	24.79	40.29	12.66	10.17

Work out the decimal sums below, link your answers to the table above to complete the code in the four boxes at the bottom.

1  $10.63 + 6.7$   
17.33

2  $3.271 + 6.1$   
9.371

3  $0.668 + 3.04$   
3.708

4  $2.472 + 16.7$   
19.172

5  $14.52 - 6.5$   
8.02

6  $46.5 - 6.21$   
40.29

7  $6.73 - 0.124$   
6.606

8  $4.83 + 9.74$   
14.57

9  $3.33 - 2.46$   
0.87

10  $2.75 + 11.46$   
14.21

11  $6.72 - 4.93$   
1.79

12  $4.8 - 0.69$   
4.11

**C-R-M** **Z-I-X** **J-L-S** **N-P-Q**

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[Add Subtract Decimals](#)

## Percentage of an Amount CODE BREAKER GAME

### Percentage of a Quantity Codebreaker

A	B	C	D	E	F	G	H	I	J	K	L	M
66	87	3.5	88	40	348	175	30	28	360	56	12	189
N	O	P	Q	R	S	T	U	V	W	X	Y	Z
100.4	100	217	13	55	246	78	198	60	86	12	22	11

Answer each question, simplify where possible. Where relevant, leave your answer as an improper fraction. Link your answer to the table above to complete the code in the four boxes at the bottom.

1 50% of 24  
12

2 25% of 120  
30

3 80% of 450  
360

4 35% of 620  
217

5 15% of 440  
66

6 27% of 700  
189

7 11% of 800  
88

8 5% of 260  
13

9 80% of 70  
56

10 65% of 120  
78

11 2% of 140  
2.8

12 56% of 340  
190.4

13 2.5% of 7000  
175

14 33% of 600  
198

15 40% of 150  
60

**X-H-J** **P-A-M** **D-Q-K** **T-I-N-G-U-V**

Codebreaker Game

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[Percentage of an Amount](#)

# Some more code-breakers you may like! [\(click the link\)](#)

### Multiplying Exponents CODE BREAKER GAME

**Multiplying Exponents Code Breaker**

A	B	C	D	E	F	G	H	I	J	K	L	M
45x <sup>2</sup>	27x <sup>3</sup>	6x <sup>2</sup> y <sup>3</sup>	144x <sup>4</sup> y <sup>2</sup>	56x <sup>6</sup>	x <sup>11</sup>	3x <sup>2</sup>	12x <sup>4</sup>	4x <sup>10</sup>	18x <sup>3</sup>	11x <sup>2</sup>	x <sup>2</sup>	6x <sup>4</sup> y <sup>2</sup>
N	O	P	Q	R	S	T	U	V	W	X	Y	Z
xy <sup>2</sup>	10x <sup>2</sup>	200x <sup>6</sup>	x <sup>2</sup>	42x <sup>10</sup>	x <sup>3</sup>	32x <sup>6</sup>	x	xy <sup>2</sup>	x <sup>2</sup> y <sup>2</sup>	x <sup>2</sup> y	x <sup>2</sup> y	

Simplify the exponents above, link them to the answers in the table above to complete the code in the four boxes at the bottom:

- $x^5 \times x^2 = \frac{\quad}{x^2}$
- $x^4 \times x^5 = x^{\quad}$
- $x^3 \times x = x^{\quad}$
- $x^4 \times x^4 \times x^3 = x^{11}$
- $\frac{1}{x^2} \times x^{10} = x^{\quad}$
- $8x^3 \times 7x^5 = 56x^{\quad}$
- $7x \times 6x^{14} = 42x^{15}$
- $5x^3 \times 9x^3 = 45x^{\quad}$
- $3x^4y \times 2x^2y^3 \times xy = 6x^{\quad}y^{\quad}$
- $40x \times 5x^8 = 200x^{\quad}$
- $(3x^2y^6)^3 = 27x^{\quad}y^{\quad}$
- $(6x^2y^3)^2 \times xy = 36x^{\quad}y^{\quad}$

**L-R-U F-T-E S-A-M Q-B-C**

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### [Multiplying Exponents](#)

### Quadratic Formula CODE BREAKER GAME

**Quadratic Formula Code Breaker**

A	B	C	D	E	F	G	H	I	J	K	L	M
W01	199	180	160	821	241	214	100	835	324	929	112	115
-201	-276	181	-613	-542	-561	-698	144	-431	-490	-129	-272	-631
M	O	P	Q	R	S	T	U	V	W	X	Y	Z
0.04	1.27	1.68	2.41	3.20	3.55	0.79	9.00	3.20	11.15	4.08	3.70	4.82
0.34	1.68	0.25	1.94	0.76	3.55	-1.56	1.68	-3.21	1.16	1.00	3.78	-1.81

Solve, using the quadratic formula, link your answers to the table above to complete the code in the four boxes at the bottom:  
Answer to 2 decimal places.

- $3x^2 + 5x - 9 = 0$   
 $x = 1.09$   
 $x = -2.76$
- $x^2 + 6x - 4 = 0$   
 $x = 0.61$   
 $x = -6.61$
- $x^2 + 3x - 2 = 0$   
 $x = -3.56$
- $2x^2 + 6x - 95 = 0$   
 $x = 5.53$   
 $x = -8.55$
- $9x^2 + 5x - 2 = 0$   
 $x = 0.27$   
 $x = -0.82$
- $6x^2 = 2x + 4$   
 $x = 1.12$   
 $x = -0.72$
- $5x^2 - 4x - 2 = 0$   
 $x = 1.15$   
 $x = -0.35$
- $x(6x + 1) = 11$   
 $x = -1.44$
- $x^2 = 4x + 31$   
 $x = 4.85$   
 $x = -1.85$
- $11 - 8x - x^2 = 0$   
 $x = 1.20$   
 $x = -0.20$
- $x + 13x + 4 = 7$   
 $x = -0.83$
- $2x(2x - 3) = 1$   
 $x = 1.65$   
 $x = -0.15$

**B-A-T S-E-L M-O-Z R-I-D**

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### [Quadratic Formula](#)

### Scientific Notation CODE BREAKER GAME

**Scientific Notation Code Breaker**

A	B	C	D	E	F	G	H	I	J	K	L	M
745	83041	98380	22	442	5401	7500	721	4302	23002	101	1427	310
6.45	2.76	3.10	1.2	1.5	2.9	6.14	3.5	2.00	2.10	2.10	2.10	2.10
N	O	P	Q	R	S	T	U	V	W	X	Y	Z
18985	232	1750	11	3880	48024	88888	42027	24	22027	7438	0011	42027
4.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2

Answer each question, link your answer to the table above to complete the code in the four boxes at the bottom:

- Write the following number in scientific notation:  
 $5 \times 10^5$   
500 000
- Write the following number in scientific notation:  
7 450
- Write the following number in scientific notation:  
 $2.45 \times 10^{11}$   
0.00245
- Write the following number in scientific notation:  
 $5.15 \times 10^{11}$   
0.0312
- Write the following number in scientific notation:  
8 267
- Write the following number in scientific notation:  
 $6.67 \times 10^{-11}$   
667 000
- Write the following number in scientific notation:  
 $2.900 \times 10^6$   
2 900
- Write the following number in scientific notation:  
 $0.567$   
2 884
- Write the following number in scientific notation:  
 $8.54 \times 10^{14}$   
7 07
- Write the following number in scientific notation:  
 $2.3025 \times 10^6$   
 $2.2 \times 10^3$
- Write the following number in scientific notation:  
 $1.7568 \times 10^3$   
 $7.84 \times 10^2$
- Write the following number in scientific notation:  
 $72 020$   
3.1
- Write the following number in scientific notation:  
 $3.1 \times 10^1$   
3.1

**C-A-S Y-Z-H T-J-E D-F-P X-M-Q**

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### [Scientific Notation](#)

### Pythagorean CODE BREAKER GAME

**Pythagorean Code Breaker**

A	B	C	D	E	F	G	H	I	J	K	L	M
11	8.2	11.7	15.7	20	8.9	4.4	1.1	25	5	25	5	25
N	O	P	Q	R	S	T	U	V	W	X	Y	Z
16	5	17	20	8.9	22.4	30.1	1	5	84	1.5	12	12.7

Find the value of a for each question, link your answer to the table above to complete the code in the four boxes at the bottom:

- $a^2 + 15^2 = 17^2$
- $a^2 + 8.2^2 = 11.7^2$
- $a^2 + 16.1^2 = 20^2$
- $a^2 + 11.7^2 = 15.7^2$
- $a^2 + 7.2^2 = 10^2$
- $a^2 + 8.9^2 = 11^2$
- $a^2 + 4.8^2 = 6.4^2$
- $a^2 + 8.9^2 = 12^2$
- $a^2 + 25^2 = 25^2$
- $a^2 + 5^2 = 25^2$
- $a^2 + 8.9^2 = 12^2$
- $a^2 + 25^2 = 25^2$
- $a^2 + 12.7^2 = 15^2$
- $a^2 + 8.2^2 = 11.7^2$
- $a^2 + 20^2 = 25^2$
- $a^2 + 36^2 = 36^2$

**M-O-T Z-A-G R-I-D B-E-N**

Ten Tors Math

### [Pythagorean Theorem](#)

### Simplifying Radicals CODE BREAKER GAME

**Simplifying Radicals Code Breaker**

A	B	C	D	E	F	G	H	I	J	K	L	M
703	187	273	278	571	622	606	278	3473	6783	2-5	123	542
208	569	10625	1197	6473	6473	207	7-15	7-5	2413	6216	1293	425
N	O	P	Q	R	S	T	U	V	W	X	Y	Z
2	3	4	5	6	7	8	9	10	11	12	13	14

Simplify the radical below, link them to the answers in the table above to complete the code in the four boxes at the bottom:

- $\sqrt{27}$
- $\sqrt{50}$
- $\sqrt{216}$
- $\sqrt{700}$
- $\sqrt{33}$
- $\sqrt{52}$
- $\sqrt{65}$
- $\sqrt{107}$
- $\sqrt{243}$
- $\sqrt{3} \times \sqrt{24}$
- $\sqrt{75}$
- $\sqrt{847}$
- $\sqrt{93}$
- $\sqrt{62}$
- $\sqrt{53}$
- $\sqrt{117}$
- $\sqrt{50} \times \sqrt{10}$
- $\sqrt{245}$
- $\sqrt{21} \times \sqrt{35}$
- $\sqrt{40} \times \sqrt{2}$
- $\sqrt{105}$
- $\sqrt{75}$
- $\sqrt{75}$
- $\sqrt{45}$

**L-M-G B-E-F O-Q-P V-U-Z**

Ten Tors Math

### [Simplifying Radicals](#)

### Rational Exponents CODE BREAKER GAME

**Rational Exponents Code Breaker**

A	B	C	D	E	F	G	H	I	J	K	L	M
$x^4y^3$	$x^4$	$\frac{1}{x^2}$	$\frac{1}{9x^2}$	$\frac{2}{x}$	$16x^2y^3$	$\frac{2}{x^2}$	$6x^2$	$\frac{4}{2x^2}$	$\frac{4}{2x^2}$	$2x^2y^3$	$x^6$	$\frac{1}{13}$
N	O	P	Q	R	S	T	U	V	W	X	Y	Z
$\frac{1}{x}$	$\frac{y^2}{4x}$	$\sqrt{x}$	$x^2$	$10x^2y^3$	$\frac{9x^2}{2}$	$\frac{1}{x}$	$6x^3$	$\frac{2}{x}$	$25x^2y^4$	$13$	$2x^2$	$\frac{2}{3}$

Answer each question, link your answer to the table above to complete the code in the four boxes at the bottom:

- Simplify  $\sqrt{x^8}$
- Simplify  $x^2(x^{1/2})^2$
- Evaluate  $\frac{1}{13}$
- Simplify  $\sqrt{8x^2 \cdot 2x^2}$
- Simplify  $(4x^2y^3)^{1/2}$
- Evaluate  $\frac{2}{9}$
- Simplify  $\sqrt{x} \times x^2 \sqrt{x}$
- Simplify  $(125x^{12}y^6)^{1/3}$
- Evaluate  $\frac{2}{9}$
- Evaluate  $\frac{2}{5}$
- Simplify  $\frac{9y^4}{x^2}(x^2)^{-3}$
- Evaluate  $\frac{3}{5}$
- Simplify  $\sqrt{36x^6}$
- Evaluate  $\frac{3}{4}$
- Evaluate  $\frac{64}{27}$

**B-Q-M Y-O-R N-H-W V-E-S Z-U-T**

Ten Tors Math

### [Rational Exponents](#)



Some more resources you may like! (click the link)


## Doubling and Halving



**Bingo!**  
Game  
by Ten  
Tors Math

[Doubling & Halving Game](#)

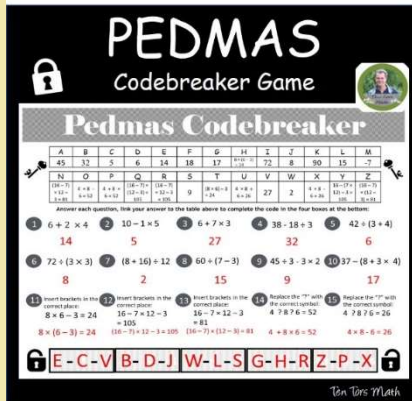
## Fractions - the four operations



[Fractions Puzzle](#)


## PEDMAS

Codebreaker Game



[PEDMAS codebreaker activity](#)


## Fractions, Decimals and Percentages



**Bingo!**  
Game  
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[FDP Bingo Game](#)


## Fractions & Decimals



**Mini Bundle**  
of games  
& puzzles  
by Ten  
Tors Math

[FDP Bundle](#)

## Percentage Increase & Decrease



**Task Cards**  
by Ten  
Tors Math

Grades 7 to 10


[Percentage Increase and Decrease](#)



Some more resources you may like! (click the link)


### Spheres

Volume & Surface Area



**Bingo! Game**  
by Ten Tors Math

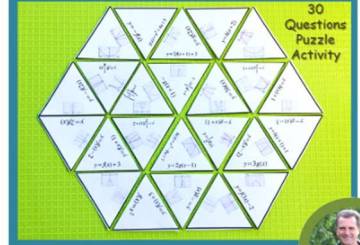
Grades 8 to 11  
Unique bingo cards for up to 26 students



[Volume & Surface Area of Spheres](#)


### Quadratic Graph Transformations

Graph Transformations Puzzle Activity



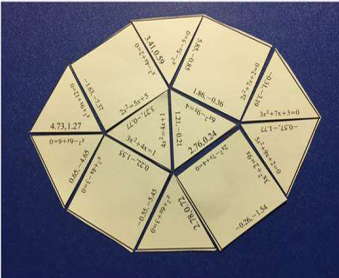
30 Questions  
Puzzle Activity

**Puzzle**



[Quadratic Graph Transformations](#)

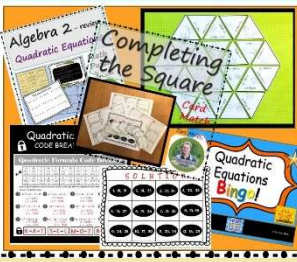
### Using the Quadratic Formula to solve equations




**The Quadratic Formula**

### Algebra 2

Quadratic Review Activities




**Bundle**  
of games, puzzles and challenges  
by Ten Tors Math




[Algebra 2 Quadratic Bundle](#)

### Percentage Increase & Decrease




**Task Cards**  
by Ten Tors Math

Grades 7 to 10




[Percentage Increase and Decrease](#)

### Completing the Square



**Card Match**  
by Ten Tors Math



[Completing the Square](#)