

# NUMBER

## Chapter 1: Integers

### Part 5: Order of Operations



[Starter](#)

[Video](#)

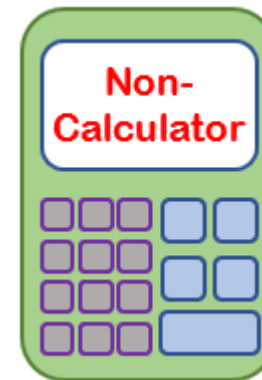
[Worksheet – I’m giving it a try!](#)

[Worksheet – I’m building my confidence!](#)

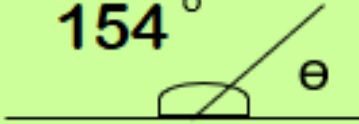

[Worksheet – I’m ready for anything!](#)

[Extension](#)

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Answer 4 questions to make a straight line vertically, horizontally or diagonally.

Find 80% of 20	Calculate $\theta$ $154^\circ$ 	Calculate $295 \div 10$	Calculate the mean of 11,10,7,5,1
List all of the factors of 18	Find $\frac{3}{4}$ of 600	 Find the area where $b = 5\text{cm}$ $h = 7\text{cm}$	What is the value of 9 in 3.918
Calculate $0.4 \times 0.9$	Simplify $6a+7b+4a-2b$	Calculate $-4 - 6$	Calculate $4 + 4 \times 3$
Simplify $20 : 12$	Round 3375 to the nearest 100	If $405 \times 94 = 38070$ what is $4.05 \times 940$ ?	Expand $5(2a + 6)$

[Answers](#)

## Answers

<b>16</b>	<b>26</b>	<b>29.5</b>	<b>6.8</b>
1,2,3,6,9,18	<b>450</b>	<b>17.5cm<sup>2</sup></b>	<b>0.9</b>
<b>0.36</b>	<b>10a + 5b</b>	<b>-10</b>	<b>16</b>
<b>5 : 3</b>	<b>3400</b>	<b>3807</b>	<b>10a + 30</b>

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# Order of Operations

1) Calculate

$$3 + 7 \times 4$$

2) Calculate

$$10 \div (8 - 6)$$

3) Calculate

$$(4 + 5) \times 2^3$$

Watch this [video](#) to see how to do the examples.  
Remember to pause the video when promoted to copy the notes.

# Order of Operations

1) Calculate

$$3 + 7 \times 4$$

$$= 3 + 28 = 31$$

2) Calculate

$$10 \div (8 - 6)$$

$$= 10 \div 2 = 5$$

3) Calculate

$$(4 + 5) \times 2^3$$

$$= 9 \times 2^3$$

$$= 9 \times 8 = 72$$

$$9 - 8 + 1 = \cancel{2} 2 \checkmark$$

B

I

D M

A S

Brackets

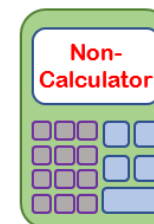
Indices (powers)

Divide / multiply

(do in the order written in the question)

Add / Subtract

(do in the order written in the question).



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# I'm giving it a try!

Calculate:

(a)  $8 \times 2 + 3$

(b)  $8 + 2 \times 3$

(c)  $8 \times 2 - 3$

(d)  $8 - 2 \times 3$

(e)  $8 \div 2 + 3$

(f)  $8 \div 2 - 3$

(g)  $7 + 8 \div 2$

(h)  $7 - 9 \div 3$

(i)  $5 + 6 \times 4 + 1$

(j)  $5 \times 6 + 4 \times 1$

(k)  $7 + 3 \times 2 - 1$

(l)  $7 - 3 \times 2 + 1$

(m)  $5 - 6 \div 2 + 1$

(n)  $5 + 6 \div 2 - 1$

(o)  $8 \div 2 + 9 \div 3$

(p)  $5 \times 4 + 2 \div 2$

(q)  $8 \div 4 - 2 \times 1$

(r)  $4 \times 6 - 2 \times 5$

(s)  $5 \div 1 - 6 \div 2$

(t)  $8 - 2 \times 2 - 3$

# Answers

**I'm giving it a try!**

(a) 19 (b) 14 (c) 13 (d) 2 (e) 7

(f) 1 (g) 11 (h) 4 (i) 30 (j) 34

(k) 12 (l) 2 (m) 3 (n) 7 (o) 7

(p) 21 (q) 0 (r) 14 (s) 2 (t) 1

Now that you have marked your work, take time to reflect on how confident you are feeling...

My Reflections...



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# I'm building my confidence!

Calculate:

(a)  $8 \times (3 + 2)$

(b)  $(8 + 3) \times 2$

(c)  $8 \times (3 - 2)$

(d)  $(8 - 3) \times 2$

(e)  $9 \div (1 + 2)$

(f)  $6 \div (7 - 5)$

(g)  $(7 + 8) \div 5$

(h)  $(10 - 1) \div 3$

(i)  $(5 + 2) \times 4 + 1$

(j)  $5 \times (6 + 4) - 1$

(k)  $7 + 3 \times (3 - 1)$

(l)  $(7 - 3) \times 2 + 1$

(m)  $5 - 6 \div (2 + 1)$

(n)  $(4 + 6) \div (3 - 1)$

(o)  $8 \div (2 + 2) - 1$

(p)  $(5 \times 4 + 2) \div 2$

(q)  $8 \div (5 - 2 \times 2)$

(r)  $(4 \times 6 - 9) \times 2$

(s)  $10 \div (5 - 6 \div 2)$

(t)  $(8 - 2) \times (2 - 2)$



# Answers

**I'm building my confidence!**

(a) 40 (b) 22 (c) 8 (d) 10 (e) 3

(f) 3 (g) 3 (h) 3 (i) 29 (j) 49

(k) 13 (l) 9 (m) 3 (n) 5 (o) 1

(p) 11 (q) 8 (r) 30 (s) 5 (t) 0

Now that you have marked your work, take time to reflect on how confident you are feeling...

My Reflections...



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# I'm ready for anything!

**Calculate:**

(a)  $8 \times 3 + 2^2$     (b)  $8^2 - 4 \div 2$     (c)  $10 - 3^2 + 2$     (d)  $8 \times 2^2 - 5$     (e)  $9 \div 3 + \sqrt{16}$

(f)  $(7 - 5) \times 3^2$     (g)  $6 \times (2 + 1)^2$     (h)  $4^2 \div (10 - 8)$     (i)  $(5 + 2^2) \times (4 + 1)$     (j)  $\sqrt{25} \times (6 + 4)$

**Insert brackets into these calculations to make them correct:**

(k)  $7 + 3 \times 2 = 20$

(l)  $10 \div 2 + 3 = 2$

(m)  $8 - 6 \times 9 - 4 = 10$

(n)  $8 - 6 \times 9 - 4 = 14$

# Answers

**I'm ready for anything!**

(a) 28 (b) 62 (c) 3 (d) 27 (e) 7

(f) 18 (g) 54 (h) 8 (i) 45 (j) 50

(k)  $(7 + 3) \times 2 = 20$  (l)  $10 \div (2 + 3) = 2$

(m)  $(8 - 6) \times (9 - 4) = 10$  (n)  $(8 - 6) \times 9 - 4 = 14$

Now that you have marked your work, take time to reflect on how confident you are feeling...

My Reflections...



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## Extension

By using EXACTLY four 4's and ONLY the operations  $+$   $-$   $\times$   $\div$   $( )$  and  $\sqrt{\quad}$  can you make all the numbers from 0 to 9?

E.g.  $4 \div 4 + (4 - 4) = 1$

Challenge yourself to try bigger numbers.  
How high can you get?  
Are there any numbers that you cannot make?

# Answers

By using EXACTLY four 4's and ONLY the operations  $+$   $-$   $\times$   $\div$   $( )$  and  $\sqrt{\quad}$  can you make all the numbers from 0 to 9?

Here are some possible solutions:

$$0 = 4 + 4 - (4 + 4)$$

$$1 = (4 + 4) \div (4 + 4)$$

$$2 = 4 \div 4 + 4 \div 4$$

$$3 = (4 + 4 + 4) \div 4$$

$$4 = (\sqrt{4} + \sqrt{4}) \times (4 \div 4)$$

$$5 = 4 + \sqrt{4} - (4 \div 4)$$

$$6 = 4 + \sqrt{4} \times (4 \div 4)$$

$$7 = 4 + \sqrt{4} + (4 \div 4)$$

$$8 = 4 + 4 + 4 - 4$$

$$9 = 4 + 4 + (4 \div 4)$$

# Homework

Retrieval Homework	Topic Homework
1) Find $\frac{4}{5}$ of 60	1) Calculate: $9 - 2 \times 3$
2) Calculate $7 + 3 \times 4$	2) Calculate: $8 \times 5 + 2 \times 6$
3) Find 20% of 180	3) Calculate: $10 \div (2 + 3)$
4) Calculate $-3 - 5$	4) Calculate: $10 \times (1 + 2)^2$
5) Calculate $0.9 \times 0.7$	5) Insert brackets to make this calculation correct: $8 \times 5 + 2 - 6 = 50$

My Reflections...



[Answers](#)

# Answers

## Homework

## Retrieval Homework

(1) 48 (2) 19 (3) 36 (4) -8 (5) 0.63

## Topic Homework

(1) 3 (2) 52 (3) 2 (4) 90 (5)  $8 \times (5 + 2) - 6 = 50$