

GUIDED PRACTICE

Algebra I — Unit 1

Foundations

75 problems · you choose where to start

Know your lane.

Be good in it. Look to expand outside of it when you are ready to grow.

Every lesson has the same 15 problems, split into three zones. Start in the zone that fits you today. Staying in your lane is not failing — it is knowing yourself. When you want more room, move up. You can always come back.

**1–5
SHOWN**

The first step is done for you. Pick up from there.

**6–10
HINT**

A question to point you at the first move. You take it from there.

**11–15
ON YOUR
OWN**

Just the problem. The strategy is at the top of the page if you need it.

_____ Name _____

_____ Date _____

Lesson 1.1 — Order of Operations

STRATEGY FOR THIS LESSON

Do what is inside parentheses first, then exponents, then multiply or divide left to right, then add or subtract left to right.

Zone 1 · Problems 1–5

The first step is done for you.

1 $3 + 4 \times 2$

FIRST STEP

Multiply first: $4 \times 2 = 8$

SHOW YOUR WORK

Answer:

2 $(5 + 3) \times 2$

FIRST STEP

Parentheses first: $5 + 3 = 8$

SHOW YOUR WORK

Answer:

3 $10 - 2 \times 3$

FIRST STEPMultiply first: $2 \times 3 = 6$

SHOW YOUR WORK

Answer:

4 $2 + 3^2$

FIRST STEPExponent first: $3^2 = 9$

SHOW YOUR WORK

Answer:

5 $(4 + 2)^2$

FIRST STEP

Parentheses first: $4 + 2 = 6$

SHOW YOUR WORK

Answer:

Zone 2 · Problems 6–10

A hint only — you find the first step.

6 $12 \div 4 + 5$

HINT

What do you do before adding?

SHOW YOUR WORK

Answer:

7 5×2^2

HINT

Which comes first, the exponent or the multiply?

SHOW YOUR WORK

Answer:

8 $20 - (3 + 5)$

HINT

What is grouped together?

SHOW YOUR WORK

Answer:

9 $6 + 2 \times 5 - 3$

HINT

Find the multiply before you add or subtract.

SHOW YOUR WORK

Answer:

10 $(8 - 3)^2 + 1$

HINT

Two things happen before the + 1.

SHOW YOUR WORK

Answer:

Zone 3 · Problems 11–15

On your own. Strategy is at the top of the lesson.

11 $4 \times (6 \div 2)$

SHOW YOUR WORK

Answer:

12 $18 \div (1 + 2)$

SHOW YOUR WORK

Answer:

13 $2^3 - 4$

SHOW YOUR WORK

Answer:

14 $3 \times 4 + 2 \times 5$

SHOW YOUR WORK

Answer:

15 $(2 + 3)^2 - 10$

SHOW YOUR WORK

Answer:

Lesson 1.2 — Integers

STRATEGY FOR THIS LESSON

Same signs add and keep the sign. Different signs subtract and keep the bigger number's sign. Subtracting a negative becomes adding. Two same signs multiply or divide to a positive; different signs to a negative.

Zone 1 · Problems 1–5

The first step is done for you.

1 $-5 + 8$

FIRST STEP

Start at -5 and move 8 to the right

SHOW YOUR WORK

Answer:

2 $-3 + (-4)$

FIRST STEP

Both negative — add them and keep the sign

SHOW YOUR WORK

Answer:

3 $6 - 9$

FIRST STEP

Start at 6 and move 9 to the left

SHOW YOUR WORK

Answer:

4 $-7 - 2$

FIRST STEPMove 2 further left from -7

SHOW YOUR WORK

Answer:

5 $-4 - (-6)$

FIRST STEP

Subtracting a negative becomes adding: $-4 + 6$

SHOW YOUR WORK

Answer:

Zone 2 · Problems 6–10

A hint only — you find the first step.

6 $3 - (-5)$

HINT

What does subtracting a negative become?

SHOW YOUR WORK

Answer:

7 -6×2

HINT

Are the signs the same or different?

SHOW YOUR WORK

Answer:

8 $-3 \times (-7)$

HINT

Two negatives multiplied — what sign?

SHOW YOUR WORK

Answer:

9 $12 \div (-4)$

HINT

Are the signs the same or different?

SHOW YOUR WORK

Answer:

10 $-20 \div (-5)$

HINT

Two negatives divided — what sign?

SHOW YOUR WORK

Answer:

Zone 3 · Problems 11–15

On your own. Strategy is at the top of the lesson.

11 $-8 + 3$

SHOW YOUR WORK

Answer:

12 $-2 - (-2)$

SHOW YOUR WORK

Answer:

13 $5 \times (-4)$

SHOW YOUR WORK

Answer:

14 $-15 \div 3$

SHOW YOUR WORK

Answer:

15 $-9 + 9$

SHOW YOUR WORK

Answer:

Lesson 1.3 — Evaluating Expressions

STRATEGY FOR THIS LESSON

Put the number in place of the letter — always in parentheses — then follow the order of operations.

Zone 1 · Problems 1–5

The first step is done for you.

1 $x + 5$, when $x = 4$ **FIRST STEP**

Replace x with 4: $(4) + 5$

SHOW YOUR WORK

Answer:

2 $2x$, when $x = 6$ **FIRST STEP**

Replace x with 6: $2(6)$

SHOW YOUR WORK

Answer:

3 $3x - 1$, when $x = 5$ **FIRST STEP**Replace x with 5: $3(5) - 1$

SHOW YOUR WORK

Answer:

4 x^2 , when $x = 4$ **FIRST STEP**Replace x with 4: $(4)^2$

SHOW YOUR WORK

Answer:

5 $2x + 3$, when $x = -1$

FIRST STEP

Replace x with -1 : $2(-1) + 3$

SHOW YOUR WORK

Answer:

Zone 2 · Problems 6–10

A hint only — you find the first step.

6 $x - y$, when $x = 5$, $y = 2$

HINT

Replace both letters first.

SHOW YOUR WORK

Answer:

7 xy , when $x = 3$, $y = 4$

HINTWhat does xy mean?

SHOW YOUR WORK

Answer:

8 $x + y$, when $x = -2$, $y = 7$

HINT

Watch the negative.

SHOW YOUR WORK

Answer:

9 $2x^2$, when $x = 3$

HINT

Which happens first, squaring or doubling?

SHOW YOUR WORK

Answer:

10 $5 - x$, when $x = 8$

HINT

The x is being subtracted.

SHOW YOUR WORK

Answer:

Zone 3 · Problems 11–15

On your own. Strategy is at the top of the lesson.

11 $4x + y$, when $x = 2$, $y = 3$

SHOW YOUR WORK

Answer:

12 $x^2 - 1$, when $x = -3$

SHOW YOUR WORK

Answer:

13 $3(x + 2)$, when $x = 4$

SHOW YOUR WORK

Answer:

14 $x \div 2 + 1$, when $x = 10$

SHOW YOUR WORK

Answer:

15 $2x - 3y$, when $x = 4$, $y = 1$

SHOW YOUR WORK

Answer:

Lesson 1.4 — Combining Like Terms

STRATEGY FOR THIS LESSON

Terms match only if the letter and its exponent are identical. Plain numbers combine with plain numbers.

Zone 1 · Problems 1–5

The first step is done for you.

① $3x + 5x$

FIRST STEP

Both have x , so add $3 + 5$

SHOW YOUR WORK

Answer:

② $7y - 2y$

FIRST STEP

Both have y , so subtract $7 - 2$

SHOW YOUR WORK

Answer:

3 $4x + 3 + 2x$

FIRST STEPGroup the x terms: $4x + 2x$

SHOW YOUR WORK

Answer:

4 $5a - a$

FIRST STEP a is the same as $1a$

SHOW YOUR WORK

Answer:

5 $2x + 3y + 4x$

FIRST STEP

Only the x terms combine

SHOW YOUR WORK

Answer:

Zone 2 · Problems 6–10

A hint only — you find the first step.

6 $8m - 3m + 2$

HINT

Which terms match?

SHOW YOUR WORK

Answer:

7 $6 + 2x - 4$

HINT

Which two can combine?

SHOW YOUR WORK

Answer:

8 $3x^2 + 5x^2$

HINT

Do the exponents match?

SHOW YOUR WORK

Answer:

9 $9k - 4k - 2k$

HINT

Work left to right.

SHOW YOUR WORK

Answer:

10 $4x + 7 - x + 2$

HINT

Two separate groups here.

SHOW YOUR WORK

Answer:

Zone 3 · Problems 11–15

On your own. Strategy is at the top of the lesson.

11 $2a + 3b - a + b$

SHOW YOUR WORK

Answer:

12 $10 - 3x + 5x$

SHOW YOUR WORK

Answer:

13 $6y + 2 - 6y$

SHOW YOUR WORK

Answer:

14 $5x^2 + 2x - 3x^2$

SHOW YOUR WORK

Answer:

15 $7p - 3q + 2p + 5q$

SHOW YOUR WORK

Answer:

Lesson 1.5 — The Distributive Property

STRATEGY FOR THIS LESSON

The number outside the parentheses multiplies each term inside — including the sign in front of it.

Zone 1 · Problems 1–5

The first step is done for you.

1 $2(x + 3)$

FIRST STEP

Multiply 2 by x : $2 \cdot x = 2x$

SHOW YOUR WORK

Answer:

2 $3(x - 4)$

FIRST STEP

Multiply 3 by x : $3 \cdot x = 3x$

SHOW YOUR WORK

Answer:

3 $5(2x + 1)$

FIRST STEPMultiply 5 by $2x$: $5 \cdot 2x = 10x$

SHOW YOUR WORK

Answer:

4 $-2(x + 5)$

FIRST STEPMultiply -2 by x : $-2 \cdot x = -2x$

SHOW YOUR WORK

Answer:

5 $-3(x - 2)$

FIRST STEPMultiply -3 by x : $-3 \cdot x = -3x$

SHOW YOUR WORK

Answer:

Zone 2 · Problems 6–10

A hint only — you find the first step.

6 $4(3x - 2)$

HINT

Both terms inside get multiplied.

SHOW YOUR WORK

Answer:

7 $-(x + 7)$

HINT

What number is really out front?

SHOW YOUR WORK

Answer:

8 $6(x + y)$

HINT

Two different letters inside.

SHOW YOUR WORK

Answer:

9 $2(4x - 3)$

HINT

Watch the minus sign.

SHOW YOUR WORK

Answer:

10 $-5(2x + 1)$

HINT

The negative goes to both terms.

SHOW YOUR WORK

Answer:

Zone 3 · Problems 11–15

On your own. Strategy is at the top of the lesson.

11 $3(x + 2) + 4$

SHOW YOUR WORK

Answer:

12 $-2(3x - 4)$

SHOW YOUR WORK

Answer:

13 $x(x + 3)$

SHOW YOUR WORK

Answer:

14 $7(2x - 5)$

SHOW YOUR WORK

Answer:

15 $-4(x - 6)$

SHOW YOUR WORK

Answer:

Answer Key — Teacher Copy

Unit 1 Guided Practice · 75 problems

Lesson 1.1 — Order of Operations

1	$3 + 4 \times 2$	11
2	$(5 + 3) \times 2$	16
3	$10 - 2 \times 3$	4
4	$2 + 3^2$	11
5	$(4 + 2)^2$	36
6	$12 \div 4 + 5$	8
7	5×2^2	20
8	$20 - (3 + 5)$	12
9	$6 + 2 \times 5 - 3$	13
10	$(8 - 3)^2 + 1$	26
11	$4 \times (6 \div 2)$	12
12	$18 \div (1 + 2)$	6
13	$2^3 - 4$	4
14	$3 \times 4 + 2 \times 5$	22
15	$(2 + 3)^2 - 10$	15

Lesson 1.2 — Integers

1	$-5 + 8$	3
2	$-3 + (-4)$	-7
3	$6 - 9$	-3
4	$-7 - 2$	-9
5	$-4 - (-6)$	2
6	$3 - (-5)$	8
7	-6×2	-12
8	$-3 \times (-7)$	21
9	$12 \div (-4)$	-3
10	$-20 \div (-5)$	4
11	$-8 + 3$	-5
12	$-2 - (-2)$	0
13	$5 \times (-4)$	-20
14	$-15 \div 3$	-5
15	$-9 + 9$	0

Lesson 1.3 — Evaluating Expressions

1	$x + 5$, when $x = 4$	9
2	$2x$, when $x = 6$	12
3	$3x - 1$, when $x = 5$	14
4	x^2 , when $x = 4$	16
5	$2x + 3$, when $x = -1$	1
6	$x - y$, when $x = 5$, $y = 2$	3
7	xy , when $x = 3$, $y = 4$	12
8	$x + y$, when $x = -2$, $y = 7$	5
9	$2x^2$, when $x = 3$	18
10	$5 - x$, when $x = 8$	-3
11	$4x + y$, when $x = 2$, $y = 3$	11
12	$x^2 - 1$, when $x = -3$	8
13	$3(x + 2)$, when $x = 4$	18
14	$x \div 2 + 1$, when $x = 10$	6
15	$2x - 3y$, when $x = 4$, $y = 1$	5

Lesson 1.4 — Combining Like Terms

1	$3x + 5x$	8x
2	$7y - 2y$	5y
3	$4x + 3 + 2x$	$6x + 3$
4	$5a - a$	4a
5	$2x + 3y + 4x$	$6x + 3y$
6	$8m - 3m + 2$	$5m + 2$
7	$6 + 2x - 4$	$2x + 2$
8	$3x^2 + 5x^2$	$8x^2$
9	$9k - 4k - 2k$	3k
10	$4x + 7 - x + 2$	$3x + 9$
11	$2a + 3b - a + b$	$a + 4b$
12	$10 - 3x + 5x$	$2x + 10$
13	$6y + 2 - 6y$	2
14	$5x^2 + 2x - 3x^2$	$2x^2 + 2x$
15	$7p - 3q + 2p + 5q$	$9p + 2q$

Lesson 1.5 — The Distributive Property

1	$2(x + 3)$	$2x + 6$
2	$3(x - 4)$	$3x - 12$
3	$5(2x + 1)$	$10x + 5$
4	$-2(x + 5)$	$-2x - 10$
5	$-3(x - 2)$	$-3x + 6$
6	$4(3x - 2)$	$12x - 8$
7	$-(x + 7)$	$-x - 7$
8	$6(x + y)$	$6x + 6y$
9	$2(4x - 3)$	$8x - 6$
10	$-5(2x + 1)$	$-10x - 5$
11	$3(x + 2) + 4$	$3x + 10$
12	$-2(3x - 4)$	$-6x + 8$
13	$x(x + 3)$	$x^2 + 3x$
14	$7(2x - 5)$	$14x - 35$
15	$-4(x - 6)$	$-4x + 24$