

Name _____

Date _____

VERTEXMATH • BUILD YOUR OWN • MTH1W GRADE 9

Expressions and Equations: your summary

1 Fill in every blank from memory. No notes.

2 Check it against the Unit Summary in a different colour.

3 Tick ✓ or X on each card. Every X is a topic to review.

vertexmath.ca
Worksheet, answers &
this cheat sheet



Which move?

Write the tool for each case.

$-3(x + 2) = 9$

$x/4 + 1 = x/6$

$6x - 1 = 2x + 7$

1 Words to algebra

☒ ☐

1 Write as expressions: "6 less than twice m "; "4 times the sum of m and 9".

2 Terms and substituting

☒ ☐

2 Name the terms, the coefficients and the constant of $7y^2 - y - 6$.

3 Evaluate $3p^2 - 2pq$ at $p = -2$, $q = 5$.

3 Like terms

☒ ☐

4 Which are like terms: $4m^2n$, $-mn^2$, $7nm^2$, $2mn$?

5 Simplify $8k - 3k^2 + 2k^2 - 11k + 5$.

4 Distributive property

☒ ☐

6 Expand $-4(2y - 7)$.

7 Simplify $3(2m + 1) - 5(m - 4)$.

5 Solving equations

☒ ☐

8 Solve $x - 9 = -4$ and $6x = -21$.

9 Solve $11 - 4x = -5$ and check.

6 Multi-step equations

☒ ☐

10 Solve $2(3x + 5) = 4x - 6$.

11 Solve $(x + 1)/2 = x/3 + 2$.

7 Rearranging formulas

☒ ☐

12 Solve $V = lwh$ for h . Find h when $V = 240$, $l = 10$ and $w = 8$.

13 Solve $C = 2\pi r$ for r .

8 Writing equations

☒ ☐

14 Four consecutive even numbers add to 100. Find them.

15 A taxi charges \$4 plus \$2 per km. A ride cost \$19. Write an equation and find the distance.

9 Shapes, rates, money

☒ ☐

16 A rectangle is 3 times as long as it is wide. Its perimeter is 64 cm. Find its length and width.

17 A \$50 jacket is 30% off, then 13% HST is added. What do you pay?

My traps Your three most likely mistakes, and how you will catch each one.

1 _____ **2** _____ **3** _____

Answers • Answers to the numbered prompts. Cover this strip until you are done.

12 $h = V/(lw)$; $h = 3$
13 $r = C/(2\pi)$
14 $4x + 12 = 100$; 22, 24, 26, 28
15 $2d + 4 = 19$, $d = 7.5$ km
16 $2w + 6w = 64$; 8 cm by 24 cm
17 $50 \times 0.70 \times 0.13 = 39.55$; \$39.55

6 $-8y + 28$
7 $6m + 3 - 5m + 20 = m + 23$
8 $x = 5$; $x = -3.5$
9 $-4x = -16$, $x = 4$; $11 - 16 = -5$
10 $6x + 10 = 4x - 6$, $2x = -16$, $x = -8$
11 LCD 6: $3x + 3 = 2x + 12$, $x = 9$

1 $2m - 6$; $4(m + 9)$
2 terms $7y^2$, $-y$, -6 ; coefficients 7, -1 ; constant -6
3 $3(-2)^2 - 2(-2)(5) = 12 + 20 = 32$
4 $4m^2n$ and $7nm^2$
5 $-k^2 - 3k + 5$