Prepare for the PSAT NMSQT Math Test in 7 Days



A Quick Study Guide with Two Full-Length PSAT Math Practice Tests

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By

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Description

Prepare for the PSAT / NMSQT Math Test in 7 Days, which reflects the 2019 and 2020 test guidelines and topics, incorporates the best method and the right strategies to help you hone your math skills, overcome your exam anxiety, and boost your confidence -- and do your best to defeat PSAT Math test quickly. This quick study guide contains only the most important and critical math concepts a student will need in order to succeed on the PSAT Math test. Math concepts in this book break down the topics, so the material can be quickly grasped. Examples are worked step–by–step to help you learn exactly what to do.

This PSAT Math new edition has been updated to duplicate questions appearing on the most recent PSAT Math tests. It contains easy–to–read essential summaries that highlight the key areas of the PSAT Math test. You only need to spend about 3 – 5 hours daily in your 7–day period in order to achieve your goal. After reviewing this book, you will have solid foundation and adequate practice that is necessary to fully prepare for the PSAT Math.

Prepare for the PSAT / NMSQT Math Test in 7 Days is for all PSAT Math test takers. It is a breakthrough in Math learning — offering a winning formula and the most powerful methods for learning basic Math topics confidently. Each section offers step–by–step instruction and helpful hints, with a few topics being tackled each day.

Inside the pages of this comprehensive book, students can learn math topics in a structured manner with a complete study program to help them understand essential math skills. It also has many exciting features, including:

- Content 100% aligned with the 2019-2020 PSAT / NMSQT test
- Written by PSAT Math tutors and test experts
- Complete coverage of all PSAT Math concepts and topics which you will be tested
- Step-by-step guide for all PSAT Math topics
- Dynamic design and easy-to-follow activities
- Over 1,500 additional PSAT math practice questions in both multiple-choice and grid-in formats with answers grouped by topic, so you can focus on your weak areas
- 2 full-length practice tests (featuring new question types) with detailed answers

Effortlessly and confidently follow the step–by–step instructions in this book to prepare for the PSAT Math in a short period of time.

Prepare for the PSAT Math Test in 7 Days is the only book you'll ever need to master Basic Math topics! It can be used as a self–study course – you do not need to work with a Math tutor. (It can also be used with a Math tutor).

Ideal for self–study as well as for classroom usage.

2) Multiply Binomials. $(x+5)(x-2) =$

Use "FOIL". (First–Out–In–Last):

$(x+5)(x-2) = x^2 - 2x + 5x - 10$

Then simplify: $x^2 - 2x + 5x - 10 = x^2 + 3x - 10$

Factoring Trinomials

Step-by-step guide:

- ✓ "FOIL": $(x+a)(x+b) = x^2 + (b+a)x + ab$
- ✓ "Difference of Squares": $a^2 - b^2 = (a+b)(a-b)$

$$a^2 + 2ab + b^2 = (a+b)(a+b)$$

$$a^2 - 2ab + b^2 = (a-b)(a\ -\ b)$$

- ✓ "Reverse FOIL": $x^2 + (b+a)x + ab = (x+a)(x+b)$

Examples:

1) Factor this trinomial. $x^2 - 2x - 8 =$

Break the expression into groups: $(x^2 + 2x) + (-4x - 8)$

Now factor out x from $x^2 + 2x$: $x(x+2)$ and factor out -4 from $-4x - 8$: $-4(x+2)$

Then: $= x(x+2) - 4(x+2)$, now factor out like term: $x+2$

Then: $(x+2)(x-4)$

2) Factor this trinomial. $x^2 - 6x + 8 =$

Break the expression into groups: $(x^2 - 2x) + (-4x + 8)$

Now factor out x from $x^2 - 2x$: $x(x-2)$, and factor out -4 from $-4x + 8$: $-4(x-2)$

Then: $= x(x-2) - 4(x-2)$, now factor out like term: $x-2$

Then: $(x-2)(x-4)$

Operations with Polynomials

Step-by-step guide:

- ✓ When multiplying a monomial by a polynomial, use the distributive property.

$$a \times (b + c) = a \times b + a \times \mathrm{c} = ab + ac$$

Examples:

1) Multiply. $5(2x - 6) =$

   Use the distributive property: $5(2x - 6) = 10x - 30$

2) Multiply. $2x(6x + 2) =$

   Use the distributive property: $2x(6 + 2) = 12x^2 + 4x$

Day 5 Practices

Simplify each polynomial.

1) $5(2x-10)=$
2) $2x(4x-2)=$
3) $4x(5x-3)=$
4) $3x(7x+3)=$
5) $4x(8x-4)=$
6) $5x(5x+4)=$

Add or subtract polynomials.

7) $(-x^2-2)+(2x^2+1)=$
8) $(2x^2+3)-(3-4x^2)=$
9) $(2x^3+3x^2)-(x^3+8)=$
10) $(4x^3-x^2)+(3x^2-5x)=$
11) $(7x^3+9x)-(3x^3+2)=$
12) $(2x^3-2)+(2x^3+2)=$

Simplify each expression. (Multiplying Monomials)

13) $4u^7\times(-2u^5)=$
14) $(-2p^7)\times(-3p^2)=$
15) $3xy^2z^3\times 2z^2=$
16) $5u^5t\times 3ut^2=$
17) $(-9a^6)\times(-5a^2b^4)=$
18) $-2a^3b^2\times 4a^2b=$

Simplify each expression. (Multiplying and Dividing Monomials)

19) $(3x^7y^2)(16x^5y^4)=$
20) $(4x^4y^6)(7x^3y^4)=$
21) $(7x^2y^9)(12x^9y^{12})=$
22) $\frac{12x^6y^8}{4x^4y^2}=$
23) $\frac{52\ ^9y^5}{4x^3y^4}=$
24) $\frac{80\ ^{12}y^9}{10x^6y^7}=$

Find each product. (Multiplying a Polynomial and a Monomial)

25) $3x(9x + 2y) =$

26) $6x(x + 2y) =$

27) $9x(2x + 4y) =$

28) $12x(3x + 9y) =$

29) $11x(2x - 11y) =$

30) $2x(6x - 6y) =$

Find each product. (Multiplying Binomials)

31) $(x + 2)(x + 2) =$

32) $(x - 3)(x + 2) =$

33) $(x - 2)(x - 4) =$

34) $(x + 3)(x + 2) =$

35) $(x - 4)(x - 5) =$

36) $(x + 5)(x + 2) =$

Factor each trinomial.

37) $x^2 + 8x + 15 =$

38) $x^2 - 5x + 6 =$

39) $x^2 + 6x + 8 =$

40) $x^2 - 8x + 16 =$

41) $x^2 - 7x + 12 =$

42) $x^2 + 11x + 18 =$

Find each product. (Operations with Polynomials)

43) $9(6x + 2) =$

44) $8(3x + 7) =$

45) $5(6x - 1) =$

46) $-3(8x - 3) =$

47) $3x^2(6x - 5) =$

48) $5x^2(7x - 2) =$

Answers

1) $10x - 50$
2) $8x^2 - 4x$
3) $20x^2 - 12x$
4) $21x^2 + 9x$
5) $32x^2 - 16x$
6) $25x^2 + 20x$

7) $x^2 - 1$
8) $6x^2$
9) $x^3 + 3x^2 - 8$
10) $4x^3 + 2x^2 - 5x$
11) $4x^3 + 9x - 2$
12) $4x^3$

13) $-8u^{12}$
14) $6p^9$
15) $6xy^2z^5$
16) $15u^6t^3$
17) $45a^8b^4$
18) $-8a^5b^3$

19) $48x^{12}y^6$
20) $28x^7y^{10}$
21) $84x^{11}y^{21}$
22) $3x^2y^6$
23) $13x^6y$
24) $8x^6y^2$

25) $27x^2 + 6xy$
26) $6x^2 + 12xy$
27) $18x^2 + 36xy$
28) $36x^2 + 108xy$
29) $22x^2 - 121xy$
30) $12x^2 - 12xy$

31) $x^2 + 4x + 4$
32) $x^2 - x - 6$
33) $x^2 - 6x + 8$
34) $x^2 + 5x + 6$
35) $x^2 - 9x + 20$
36) $x^2 + 7x + 10$

37) $(x + 3)(x + 5)$
38) $(x - 2)(x - 3)$
39) $(x + 4)(x + 2)$
40) $(x - 4)(x - 4)$
41) $(x - 3)(x - 4)$
42) $(x + 2)(x + 9)$

43) $54x + 18$
44) $24x + 56$
45) $30x - 5$
46) $-24x + 9$
47) $18x^3 - 15x^2$
48) $35x^3 - 10x^2$

Day 6:

Geometry and Statistics

Math Topics that you'll learn today:

- ✓ The Pythagorean Theorem
- ✓ Triangles
- ✓ Polygons
- ✓ Circles
- ✓ Trapezoids
- ✓ Cubes
- ✓ Rectangle Prisms
- ✓ Cylinder
- ✓ Mean, Median, Mode, and Range of the Given Data
- ✓ Bar Graph
- ✓ Box and Whisker Plots
- ✓ Stem– And– Leaf Plot
- ✓ Pie Graph
- ✓ Probability

Mathematics is like checkers in being suitable for the young, not too difficult, amusing, and without peril to the state. – Plato