

M8-12 - Methods

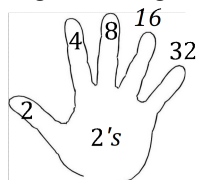
General	Common Mistakes	Restrictions/NPV's
<input type="checkbox"/> Logic/Confidence	<input type="checkbox"/> Adding Unlike Terms	<input type="checkbox"/> Can't Divide by Zero
<input type="checkbox"/> Circle/Check Answer	<input type="checkbox"/> Squaring Binomials	<input type="checkbox"/> Can't Root* Negatives
<input type="checkbox"/> Calculator	<input type="checkbox"/> Square Rooting Binomials	<input type="checkbox"/> Can't Log Negatives
<input type="checkbox"/> Explain it to a 5 year old	<input type="checkbox"/> Cancelling	

Math 1-7

Operations :

- ☐ $\pm \times \div \neq x^2 \sqrt{x}$
- ☐ Decimals 0.50
- ☐ Percentages 50%
- ☐ Multiplier $1 \pm r$
- ☐ Ratios 1:2
- ☐ BEDMAS
- ☐ Number Line \longleftrightarrow
- ☐ Negatives $+(-1)=-1$
- ☐ Substitution $(a) \rightarrow (2)$
- ☐ Expressions $x + 1$
- ☐ Arbitrary #s $x = 5^*$
- ☐ Equations $x + 1 = 2$

Finger Counting



Prime Factorize

$$4 = 2^2$$



GCF/LCM

Over = Over

$$\frac{\square}{\square} = \frac{\square}{\square}$$

#'s

- ☐ Real/Imaginary
- ☐ Ir/Rational/N/W/I

Fractions

- ☐ Simplify/Expand
- ☐ Multiply
- ☐ Tops/Bottoms
- ☐ Flip & Multiply
- ☐ LCD: Get
- ☐ Complex Fractions
- ☐ -Multiply Top/Bottom
- ☐ Separate/Reverse

Algebra

- ☐ Opposite Operation
- ☐ -Both Sides
- ☐ Cross Multiply
- ☐ "Bring it Over"
- ☐ LCD:
- ☐ -Multiply Both Sides

Pythagoras
 $a^2 + b^2 = c^2$

Geometry

- ☐ 2D/3D Shapes/Formulas
- ☐ Area/Perimeter
- ☐ $A = lw, A = \frac{bh}{2}$
- ☐ $A = \pi r^2, C = 2\pi r$
- ☐ Triangles 180° in a Δ
- ☐ -Scalene/Isosceles
- ☐ -Equilateral/Right
- ☐ Net Area SA (Flat)
- ☐ $V^* = A_b \times H$
- ☐ $V^* = \frac{1}{3} A_b \times H$
- ☐ Cone/Sphere (Given!)

Angles

- ☐ \angle 's on line sum to 180°
- ☐ Opposite \angle 's =
- ☐ Parallel Lines/Transversal
- ☐ Corresponding \angle 's =
- ☐ Alternate Interior \angle 's =
- ☐ Extend/Draw Lines

Circles

- ☐ Central \angle 's Twice
- ☐ Inscribed \angle 's*
- ☐ Arcs/Chords/Tangents
- ☐ Polygons/Triangles

Graphing

- ☐ TOV
- ☐ x - intercepts $(x, 0)$
- ☐ y - intercepts $(0, y)$
- ☐ Slope $m = \frac{y_2 - y_1}{x_2 - x_1}$
- ☐ MidPt. $M = (\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2})$
- ☐ Dist. $d^* = \sqrt{x_d^2 + y_d^2}$
- ☐ $y = mx + b$
- ☐ $y - y_1 = m(x - x_1)$
- ☐ $ax + by = c$
- ☐ $m_{||}, m_{\perp}$
- ☐ Invariant Points
- ☐ Sequences/Series
- ☐ Arithmetic "d"
- ☐ —, —, —
- ☐ Formulas $t_n =$
- ☐ Find Equation!
- ☐ Vertical Line Test

Exponents/Radicals*

- ☐ Rules $+$ $-$ \times
- ☐ $3x^{-2} = \frac{3}{x^2}$
- ☐ Bracket $(-2)^2 = +4$
- ☐ Forms $x^{\frac{m}{n}} = \sqrt[n]{x^m}$
- ☐ Change Base $8 = 2^3$
- ☐ Separate/Reverse
- ☐ $\sqrt{\square} = \sqrt{\square}$ Both Sides

Radicals

- ☐ Simplify/Expand
- ☐ $(\square)^2 = (\square)^2$ Both Sides
- ☐ Rationalize/Conjugate

Polynomials

- ☐ Definition
- ☐ Combine Like Terms
- ☐ Distribute/FOIL
- ☐ Factoring
- ☐ GCF/Trinomials/Combos
- ☐ $-a = 1, a \neq 1$
- ☐ -Difference of squares
- ☐ Let $m =$
- ☐ Grouping/Decomposition

Inequalities

$$\leq, \geq \quad \bullet \quad [] \quad \text{---} \quad \text{---}$$

$$<, > \quad \square \quad () \quad \text{---} \quad \text{---}$$

- ☐ Domain/Range
- ☐ $\times \div -ve, < \rightarrow >$
- ☐ $2 > x \geq 5$ & (2,5]
- ☐ x is between 2 & 5*
- ☐ $x = 3, 4, 5^*$
- ☐ 1 Variable
- ☐ Shading
- ☐ Test Point (0,0*)
- ☐ 2 Variables
- ☐ Graphing
- ☐ Sign/Case Analysis

Word Problems

- ☐ Declare Variables
- ☐ Let Statements let $x =$
- ☐ Diagram/Arbitrary #'s
- ☐ Given/Find/Equation/s
- ☐ Solve/Answer in English

Systems

- ☐ Isolation*/(Substitution)
- ☐ Elimination
- ☐ $y_1 = LHS$
- ☐ $y_2 = RHS$
- ☐ $y_3 = y_2 - y_1 = 0$
- ☐ Solution!

Conversions

- ☐ Factors
- ☐ Scale
- ☐ Units m^3
- ☐ Scientific
- ☐ Notation
- ☐ 5.2×10^7
- ☐ Limits $\lim x \rightarrow$
- ☐ Slopes/Areas
- ☐ Derivatives/Anti's
- ☐ Max/Min
- ☐ Optimization
- ☐ Related Rates
- ☐ Integrals

Calculus*

$$\int dx dx$$

Trigonometry

- ☐ SOH CAH TOA
- ☐ Inverse $\theta = \sin^{-1}(+)$
- ☐ Joint/Combo Triangles
- ☐ Elevation/Depression
- ☐ Thetas $\theta, \beta, \alpha :$
- ☐ \pm STP/R/Cot/Pri/Gen
- ☐ ASTC
- ☐ Unit Circle $x^2 + y^2 = 1$
- ☐ Sin/Cos Law
- ☐ Ambiguous Case

Foundations

- ☐ Reasoning
- ☐ Venn Diagrams
- ☐ Optimization
- ☐ Statistics/Probability

Quadratics

- ☐ $ax^2 + bx + c ; (0, c)$
- ☐ Complete the Square
- ☐ $a(x - p)^2 + q ; V:(p, q)$
- ☐ $a(x - \#)(x - \#)$
- ☐ $(a)(b) = 0$
- ☐ Quadratic Formula
- ☐ Square Root Method

Absolute Value

- ☐ +ve / -ve case
- ☐ Piecewise

Transformation

- ☐ Sub Opp Op for x/y
- ☐ H/V T/E/C R
- ☐ Factor Brackets!
- ☐ Inverse $f^{-1}(x) =$
- ☐ InsideOut!
- ☐ Mapping $(x - h, y + k^*)$
- ☐ Functions $f(x)$
- ☐ Operations $f(x) \pm g(x)$
- ☐ Composites $f(g(x))$

Polynomials

- ☐ Long/Synth Division
- ☐ Mult/Div Statements
- ☐ Fact/Rem Theorems
- ☐ Potential Factors
- ☐ Inspection/Store "x"
- ☐ End Behavior
- ☐ Multiplicity
- ☐ Standard/
- ☐ Factored Form

Trigonometry

- ☐ Radians
- ☐ Arc/Sec Area
- ☐ CHO-SHA-CAO
- ☐ let $m = 2x$
- ☐ let $m = \sin x$
- ☐ Angular Velocity
- ☐ Graphing
- ☐ Box Model DACB
- ☐ Identities

Exponentials

- ☐ $x^2 = x^a, x = 2$
- ☐ $(x^{\frac{3}{2}})^{\frac{2}{3}} = (8)^{\frac{2}{3}}$
- ☐ let $m = 2^x$
- ☐ Sequences/Series
- ☐ Geometric "r"
- ☐ —, —, —
- ☐ Formulas $t_n =$
- ☐ $F = P(1 + r)^t$
- ☐ Infinite s_{∞}
- ☐ Sigma Notation Σ

Logarithms

- ☐ Defn/Rules/= x
- ☐ Change Forms
- ☐ Change Base
- ☐ let $m = \log x$
- ☐ Delog/log/ln both sides

Rationals

- ☐ /Reciprocals*
- ☐ Asymptotes
- ☐ Vertical $x = \#$
- ☐ Horizontal $y = \#$
- ☐ Slant $y = x + 1$
- ☐ Holes

Conics

- ☐ Parabolas
- ☐ Circles
- ☐ Ellipses
- ☐ Hyperbolas
- ☐ Foci/s
- ☐ Directrix

Combinatorics

- ☐ FCP $\square \times \square \times \square$
- ☐ Table/Tree
- ☐ Identical Objects
- ☐ Cases!
- ☐ Cannot (1-Can)
- ☐ nPr, nCr
- ☐ $t_{k+1} = nCk a^{n-k} b^k$

M8 - Student Bootcamp/Things to do to

- | | | | |
|---|--|---|---|
| <ul style="list-style-type: none"> <input type="checkbox"/> <u>General</u> <input type="checkbox"/> Go Slower/be careful <input type="checkbox"/> Be calm/breathe <input type="checkbox"/> Write down more <input type="checkbox"/> Show more work <input type="checkbox"/> Write English sentences <input type="checkbox"/> Check/circle answer/s <input type="checkbox"/> Say I don't know <input type="checkbox"/> Don't guess <input type="checkbox"/> Guess* and check (logical) <input type="checkbox"/> Use your hands/arms <input type="checkbox"/> Point to where you look <input type="checkbox"/> <u>Get Ahead</u> <input type="checkbox"/> Read/scan textbook before! <input type="checkbox"/> Photo questions <input type="checkbox"/> <u>In class</u> <input type="checkbox"/> Make notes <input type="checkbox"/> Ask/prepare questions <input type="checkbox"/> <u>Page Layout</u> <input type="checkbox"/> Title/Date/Initials <input type="checkbox"/> 1a) far off to the left <input type="checkbox"/> Write down formulas <input type="checkbox"/> Equations side by side <input type="checkbox"/> = same spot <input type="checkbox"/> Down the page <input type="checkbox"/> No half-fractions <input type="checkbox"/> Side Work off to right <input type="checkbox"/> Do parts you can/Leave space <input type="checkbox"/> Clean notes/one sided <input type="checkbox"/> 1 question type per page* <input type="checkbox"/> New page if $\frac{2}{3}$ down <input type="checkbox"/> <u>Homework</u> <input type="checkbox"/> Do/Redo homework <input type="checkbox"/> Make a similar example <input type="checkbox"/> Make up questions <input type="checkbox"/> Make notes on notes <input type="checkbox"/> Do Extra questions <input type="checkbox"/> <u>Organization</u> <input type="checkbox"/> Binder Nightly. 1 binder! <input type="checkbox"/> At home binder #2 <input type="checkbox"/> Syllabus/notes/homework <input type="checkbox"/> <u>Daily</u> <input type="checkbox"/> Recite/think what you learned <input type="checkbox"/> 15 minutes of math on paper <input type="checkbox"/> Tell someone what you learned <input type="checkbox"/> Study with classmates <input type="checkbox"/> <u>Test Preparations</u> <input type="checkbox"/> Make table of contents <input type="checkbox"/> Make checklists <input type="checkbox"/> Make review/cheat sheets <input type="checkbox"/> Make a formula/methods/remember sheet | <ul style="list-style-type: none"> <input type="checkbox"/> <u>Errors</u> <input type="checkbox"/> Don't erase! <input type="checkbox"/> Cross out in red pen <input type="checkbox"/> <u>Trouble Shooting</u> <input type="checkbox"/> What do you know/how to do? List it! <input type="checkbox"/> What could you do? Do it! <input type="checkbox"/> Copy question correctly <input type="checkbox"/> Check with your calculator <input type="checkbox"/> Check each operation <input type="checkbox"/> Do reverse/try again <input type="checkbox"/> Do Both/Another Way/s! <input type="checkbox"/> Common Mistakes <input type="checkbox"/> Ask friends/teachers/family <input type="checkbox"/> <u>Problem Solving</u> <input type="checkbox"/> Break it down <input type="checkbox"/> Summarize given info/find! <input type="checkbox"/> Apply to daily life <input type="checkbox"/> Explain it to a ten year old <input type="checkbox"/> <u>Word Problems</u> <input type="checkbox"/> Declare Variables <input type="checkbox"/> Let Statements $let\ x =$ <input type="checkbox"/> Draw/Label a diagram <input type="checkbox"/> Arbitrary #'s <input type="checkbox"/> Write/circle givens/findings <input type="checkbox"/> Equation/s side by side <input type="checkbox"/> Substitution*(with brackets) <input type="checkbox"/> Solve/answer in English <input type="checkbox"/> <u>Teacher</u> <input type="checkbox"/> Website/print material <input type="checkbox"/> Meet/email <input type="checkbox"/> Office hours/help <input type="checkbox"/> Photocopy assignments <input type="checkbox"/> <u>Extra Marks</u> <input type="checkbox"/> Retests <input type="checkbox"/> Corrections <input type="checkbox"/> Bonus <input type="checkbox"/> Make-up/bonus work | <ul style="list-style-type: none"> <input type="checkbox"/> <u>New</u> <input type="checkbox"/> I Don't Know <input type="checkbox"/> <u>Ideals</u> <input type="checkbox"/> Attitude <input type="checkbox"/> Discipline <input type="checkbox"/> Simplify <input type="checkbox"/> Confidence <input type="checkbox"/> Ambition <input type="checkbox"/> Passion <input type="checkbox"/> Poetry <input type="checkbox"/> Practice <input type="checkbox"/> Philosophy <input type="checkbox"/> Determination <input type="checkbox"/> <u>Life</u> <input type="checkbox"/> Its on you! <input type="checkbox"/> Balance! <input type="checkbox"/> Water/Food <input type="checkbox"/> Exercise/Rest <input type="checkbox"/> Set goals <input type="checkbox"/> Get a mentor <input type="checkbox"/> Have idols <input type="checkbox"/> Make plans <input type="checkbox"/> Follow through <input type="checkbox"/> Set an example <input type="checkbox"/> Planting seeds <input type="checkbox"/> Get Motivated <input type="checkbox"/> Stay on Top of Things <input type="checkbox"/> Find something to do | <ul style="list-style-type: none"> <input type="checkbox"/> Todo - write your own! <input type="checkbox"/> Bootcamp - make your own! <input type="checkbox"/> <u>Inventory</u> <input type="checkbox"/> Tool box* <input type="checkbox"/> Logic! <input type="checkbox"/> Graph paper <input type="checkbox"/> Calendar/binder <input type="checkbox"/> Pencil case <input type="checkbox"/> Pencil/white eraser <input type="checkbox"/> Pen/red/highlighter <input type="checkbox"/> Ruler/protractor <input type="checkbox"/> Day1 <input type="checkbox"/> Felt marker <input type="checkbox"/> Syllabus <input type="checkbox"/> Whiteout <input type="checkbox"/> %Format <input type="checkbox"/> USB/stickies <input type="checkbox"/> Formulas? <input type="checkbox"/> <u>Calendars/to-dos</u> <input type="checkbox"/> Cheats? <input type="checkbox"/> Binder reminder <input type="checkbox"/> To-do reminders app <input type="checkbox"/> Paper calendar/check boxes <input type="checkbox"/> <u>Calculator</u> <input type="checkbox"/> Practice/check <input type="checkbox"/> Don't pick up! <input type="checkbox"/> Charge Batteries <input type="checkbox"/> <u>Binder</u> <input type="checkbox"/> Open to notes <input type="checkbox"/> New stuff at back <input type="checkbox"/> Two handed flipping <input type="checkbox"/> <u>Tests</u> <input type="checkbox"/> Outline <input type="checkbox"/> Format/layout <input type="checkbox"/> Formulas? <input type="checkbox"/> Spare Paper? <input type="checkbox"/> Write down Q's after <input type="checkbox"/> What's Next |
|---|--|---|---|
- ☐ Attitude - A way a person thinks or feels.
 - ☐ Mentor - An experienced and trusted advisor to follow.
 - ☐ Idol - A person to greatly admire.
 - ☐ Motivation - Desire to act in service of a goal.
 - ☐ Self Reliance - Ability to do things/make decisions by yourself.
 - ☐ Discipline - Able to follow rules.
 - ☐ Encouragement - Positive reassurance.
 - ☐ Persistence - Continue to do something difficult.
 - ☐ Confidence - Feeling sure of yourself.
 - ☐ Resilience - Withstand or recover quickly from difficulties.
 - ☐ Determination - Deciding definitely and firmly.
 - ☐ Perseverance - Continued effort dispute difficulties.
 - ☐ Bravery - Mental or moral strength to face fear or difficulty.
 - ☐ Courage - Ability to so something frightening.
 - ☐ Humility - To say "I don't know."
 - ☐ Level-Headed - Calm and sensible in difficult situations.
 - ☐ Balance - Friends, family, health, work & life.
 - ☐ Foreword Thinking - Looking ahead
 - ☐ Reassurance - Remove doubts or fears.