

RULES & CONDITIONS

Quizzes can be taken on Fridays (your class, my planning period, or 7th hour)

- Quizzes can be completed in any order
- You will be REQUIRED to write the information out.
- If I can't read it, it will not be correct - **HANDWRITING MUST BE NEAT & readable (no exceptions)**
- You cannot take the same test more than once in week.
- You must take each quiz individually.
- Each quiz is worth 5 extra credit points

Rewards will be given on Mental Math Fridays throughout the year.

BECOME A *Hoggatteer* **MATH BOFFIN**

Memorize the following items throughout the year and we will celebrate in April or May 2025 with a Rib Picnic for all who can memorize the ALL of the following sections.

COMPLETE ANY 6 TASKS

Chips or Candy from Country Store

COMPLETE ANY 12 TASKS

Ice Cream from Country Store

COMPLETE ANY 18 TASKS

Medium Drink or Slush from Sonic

COMPLETE ANY 24 TASKS

Frosty from Wendy's

COMPLETE ALL 30 TASKS

Rib Celebration in April or May 2025



Multiplication Tables

<u>Multiples of 2</u>	<u>Multiples of 3</u>	<u>Multiples of 4</u>	<u>Multiples of 6</u>	<u>Multiples of 7</u>
2	3	4	6	7
4	6	8	12	14
6	9	12	18	21
8	12	16	24	28
10	15	20	30	35
12	18	24	36	42
14	21	28	42	49
16	24	32	48	56
18	27	36	54	63

<u>Multiples of 8</u>	<u>Multiples of 9</u>	<u>Multiples of 11</u>	<u>Multiples of 12</u>
8	9	11	12
16	18	22	24
24	27	33	36
32	36	44	48
40	45	55	60
48	54	66	72
56	63	77	84
64	72	88	96
72	81	99	108

Measurement - 3

1 centimeter = 10 millimeters
 1 meter = 100 centimeters
 1 kilometer = 1000 meters
 1 liter = 1000 milliliters
 1 milliliter = 1 cubic centimeter



NCS Core Values

EXCELLENCE

We believe we are called to glorify God and to offer our best to Him in all we do.



RESPECT

We believe every individual is a wonderfully unique creation of God who should be treated with respect. Failure to respect the created is lack of respect for the Creator, and therefore we celebrate our differences and value diversity.



Prime Numbers to 100

2	3	5	7	11	13	17
19	23	29	31	37	41	43
47	53	59	61	67	71	73
79	83	89	97			

26

Circumference

Circle

$$C = 2\pi r$$

Perimeter

Square

$$P = 4s$$

Rectangle

$$P = 2(l + w)$$

27

Powers of 2

$2^0 =$	1	$2^{11} =$	2,048
$2^1 =$	2	$2^{12} =$	4,096
$2^2 =$	4	$2^{13} =$	8,192
$2^3 =$	8	$2^{14} =$	16,384
$2^4 =$	16	$2^{15} =$	32,768
$2^5 =$	32	$2^{16} =$	65,536
$2^6 =$	64	$2^{17} =$	131,072
$2^7 =$	128	$2^{18} =$	262,144
$2^8 =$	256	$2^{19} =$	524,288
$2^9 =$	512	$2^{20} =$	1,048,576
$2^{10} =$	1,024		

Biblical Measurements & Weights - 1**BATH**

1 ephah = 22 liters = 5.8 Gallons

Isaiah 5:10

2

BEKAH

10 gerahs = 5.7 grams = 0.2 ounces

Exodus 38:26

CUBIT

44.5 to 52 centimeters = 17.5 to 20.4 inches

* The length of a cubit is based on the distance between the tip of the middle finger and the elbow

Ordinary Cubit = 17.5 inches (44.5 cm)

Genesis 6:15

Royal Cubit = a hand-breadth longer - 20.4 inches (52 cm)

Ezekiel 40:5





List and Define US Coins & Bills

Penny	1 cent	Lincoln	\$1	\$1.00	Washington
Nickel	5 cents	Jefferson	\$5	\$5.00	Lincoln
Dime	10 cents	F.D. Roosevelt	\$10	\$10.00	Hamilton
Quarter	25 cents	Washington	\$20	\$20.00	Jackson
Half Dollar	50 cents	Kennedy	\$50	\$50.00	Grant
Dollar	\$1.00		\$100	\$100.00	Franklin



NCS Core Values

GOD AND A COMMITMENT TO FOLLOWING CHRIST

We believe in God the Father, in Jesus Christ, God's Son, and in the Holy Spirit. We believe that God is our Creator and that He loves mankind. This revealed love compels us to trust and obey the Lord's teachings and seek His will for our lives. We seek to view our world from a Christ-centered perspective.

THE BIBLE, A MORAL AND SPIRITUAL GUIDE

We believe the Bible to be the inspired, the only infallible, authoritative Word of God. Our entire program is centered on Biblical principles instilling Christ-like morals and values in a wholesome spiritual environment.

25 Digits of Pi

3.141 59265 35897 93238 46264



Biblical Measurements & Weights— 5

SEAH

2/3 shekel = 7 quarts = 7.3 liters
Genesis 18:6



SHEKEL

2,0 gerahs = 11.4 grams = 0.4 ounces
Genesis 23:15

SPAN

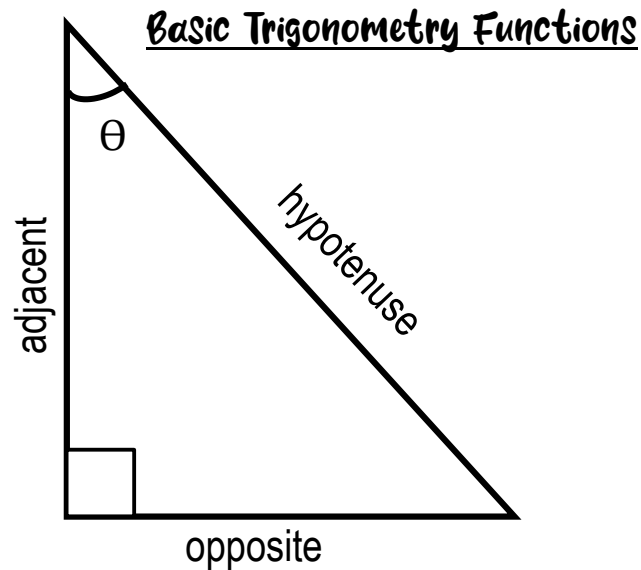
1/2 cubit = 22.8 centimeters = 9 inches
Exodus 28:16

TALENT

3,000 shekels = 60 minas = 34.3 kilograms = 75 U.S. pounds
Exodus 38:24

A talent of gold weighs, using a modern weight, 1,094 troy ounces. Assuming one troy ounce is worth \$1,700 U.S., a talent is worth about \$1.86 million dollars! If we assume silver at \$20 per troy ounce, a talent is worth \$21,880 today.

23



SOH $\sin \theta = \frac{\text{opposite}}{\text{hypotenuse}}$

CAH $\cos \theta = \frac{\text{adjacent}}{\text{hypotenuse}}$

TOA $\tan \theta = \frac{\text{opposite}}{\text{adjacent}}$

Perfect Squares

$1^2 = 1$	$11^2 = 121$
$2^2 = 4$	$12^2 = 144$
$3^2 = 9$	$13^2 = 169$
$4^2 = 16$	$14^2 = 196$
$5^2 = 25$	$15^2 = 225$
$6^2 = 36$	$16^2 = 256$
$7^2 = 49$	$17^2 = 289$
$8^2 = 64$	$18^2 = 324$
$9^2 = 81$	$19^2 = 361$
$10^2 = 100$	$20^2 = 400$

5

Biblical Measurements & Weights - 2**DAY'S JOURNEY**

32 kilometers = roughly 20 miles
Luke 2:44

6

DERIC (A COIN)

1/4 ounce = 8.5 grams
Ezra 8:27

DENARIUS

A days wages for labor
Matthew 20:2

EPHAH

10 omers = .62 bushels = 22 liters = 20 dry quarts
1Samuel 17:17



Roman Numerals to 100

1 = I	2 = II	3 = III	4 = IV	5 = V
6 = VI	7 = VII	8 = VIII	9 = IX	10 = X
11 = XI	12 = XII	13 = XIII	14 = XIV	15 = XV
16 = XVI	17 = XVII	18 = XVIII	19 = XIX	20 = XX
21 = XXI	22 = XXII	23 = XXIII	24 = XXIV	25 = XXV
26 = XXVI	27 = XXVII	28 = XXVIII	29 = XXIX	30 = XXX
31 = XXXI	32 = XXXII	33 = XXXIII	34 = XXXIV	35 = XXXV
36 = XXXVI	37 = XXXVII	38 = XXXVIII	39 = XXXIX	40 = XL
41 = XLI	42 = XLII	43 = XLIII	44 = XLIV	45 = XLV
46 = XLVI	47 = XLVII	48 = XLVIII	49 = XLIX	50 = L
51 = LI	52 = LII	53 = LIII	54 = LIV	55 = LV
56 = LVI	57 = LVII	58 = LVIII	59 = LIX	60 = LX
61 = LXI	62 = LXII	63 = LXIII	64 = LXIV	65 = LXV
66 = LXVI	67 = LXVII	68 = LXVIII	69 = LXIX	70 = LXX
71 = LXXI	72 = LXXII	73 = LXXIII	74 = LXXIV	75 = LXXV
76 = LXXVI	77 = LXXVII	78 = LXXVIII	79 = LXXIX	80 = LXXX
81 = LXXXI	82 = LXXXII	83 = LXXXIII	84 = LXXXIV	85 = LXXXV
86 = LXXXVI	87 = LXXXVII	88 = LXXXVIII	89 = LXXXIX	90 = XC
91 = XCI	92 = XCII	93 = XCIII	94 = XCIV	95 = XCV
96 = XCVI	97 = XCVII	98 = XCVIII	99 = XCIX	100 = C



Area

Square	$A = s^2$
Rectangle	$A = lw$
Triangle	$A = \frac{1}{2}bh$
Trapezoid	$A = \frac{1}{2}(b_1 + b_2)h$
Circle	$A = \pi r^2$

22

Volume

Cube	$V = s^3$
Cylinder	$V = \pi r^2 h$
Cone	$V = \frac{1}{3}\pi r^2 h$
Sphere	$V = \frac{4}{3}\pi r^3$



NCS Core Values

SHARED FAITH AND SERVANT LEADERSHIP

We desire to share the good news of Christ by telling of God's love for us, loving others as God loves us, treating others as we want to be treated, and selflessly serving others and our Lord wholeheartedly. As followers of Christ, we are called to be leaders in our family, church and community.

LIFELONG PERSONAL GROWTH

We value lifelong Spiritual and emotional growth and the cultivation of the fruit of the spirit (love, joy, peace, patience, kindness, goodness, faithfulness, gentleness and self-control), lifelong intellectual growth through disciplined study both academically and personally and through a love of learning and discovery, and a lifelong commitment to physical well-being and growth in recognition that our bodies are the temple of God.



Measurement - 2

1 inch = 2.54 centimeters
1 foot = 0.3 meter
1 mile = 1.6 kilometers
1 quart = 0.95 liters
1 centimeter = 0.39 inch

1 meter = 3.28 feet
1 kilometer = 0.6 mile
1 ounce = 28.3 grams
1 gram = 0.035 ounce
1 kilogram = 2.2 pounds



Days of the Week & Months of the Year

List the days of the week and the months of the year in order.



Perfect Cubes

$1^3 = 1$	$11^3 = 1331$
$2^3 = 8$	$12^3 = 1728$
$3^3 = 27$	$13^3 = 2197$
$4^3 = 64$	$14^3 = 2744$
$5^3 = 125$	$15^3 = 3375$
$6^3 = 216$	$16^3 = 4096$
$7^3 = 343$	$17^3 = 4913$
$8^3 = 512$	$18^3 = 5832$
$9^3 = 729$	$19^3 = 6859$
$10^3 = 1000$	$20^3 = 8000$





Biblical Measurements & Weights - 3

GERAH

1/20th of a Shekel = 0.57 grams = 0.02 ounces
Exodus 30:13

HAND BREADTH

7.6 centimeters = 3 inches = 1/6th of a cubit
1Kings 7:26

HOMER (COR)

Dry Measure: 10 Ephahs = 211 liters = 6.2 bushels
Liquid: 10 Baths = 220 liters = 58 Gallons
Numbers 11:32

LOG

1/72 of a bath = 0.3 liter = 1/3 of a quart
Leviticus 14:10

MINA

50 Shekels = 1 1/4 pound = 0.6 kilograms
1Kings 10:17



Measurement - 1

1 foot = 12 inches
1 yard = 3 feet
1 mile = 5280 feet
1 ton = 2000 pounds

1 cup = 8 ounces
1 pint = 2 cups
1 quart = 2 pints
1 gallon = 4 quarts
1 pound = 16 ounces

Time Basics



THE MINUTES

Measuring minutes or seconds, we must multiply the printed numbers times 5.

1 = 5	5 = 25	9 = 45
2 = 10	6 = 30	10 = 50
3 = 15	7 = 35	11 = 55
4 = 20	8 = 40	12 = 60

60 seconds = 1 minute
60 minutes = 1 hour = 3600 seconds
24 hours = 1 day
1 year = 365.25 days = 52 weeks



15

Surface Area

Cube	$SA = 6s^2$
Cylinder	$SA = 2\pi r^2 + 2\pi rh$
Cone	$SA = \pi r^2 + \pi rl$
Sphere	$SA = 4\pi r^2$

16

Biblical Measurements & Weights - 4**OMER**

1/10 ephah = 2.2 dry liters = 2 dry quarts
Exodus 16:22

PIM

1/10th ephah = 1/3 ounce = 7.5 grams
Exodus 29:40

REED

3 meters = 10 feet
Ezekiel 42:16

SABBATH'S DAY JOURNEY

2,000 cubits = 0.91 km = 1/2 mile
Acts 1:12

Capital Letters Lines of Symmetry

Which letters have vertical line of symmetry?

Which letters have a horizontal line of symmetry?

Which letters have multiple lines of symmetry?

Which letters have no lines of symmetry?

(you must draw each letter with the lines of symmetry)



A B C D E
F G H I J K
L M N O P
Q R S T U
V W X Y Z



12

Greek Alphabet

Α α alpha	Β β beta	Γ γ gamma	Δ δ delta
Ε ε epsilon	Ζ ζ zeta	Η η eta	Θ θ theta
Ι ι iota	Κ κ kappa	Λ λ lambda	Μ μ mu
Ν ν nu	Ξ ξ xi	Ο ο omicron	Π π pi
Ρ ρ rho	Σ σ sigma	Τ τ tau	Υ υ upsilon
Φ φ phi	Χ χ chi	Ψ ψ psi	Ω ω omega

Measurement Basics

13

Name	Number	Power of 10	Prefix	Symbol
billion	1,000,000,000	10 ⁹	giga	G
million	1,000,000	10 ⁶	mega	M
thousand	1,000	10 ³	kilo	k
hundred	100	10 ²	hecto	h
ten	10	10 ¹	deka	da
unit	1	10 ⁰		
tenth	0.01	10 ⁻¹	deci	d
hundredth	0.001	10 ⁻²	centi	c
thousandth	0.0001	10 ⁻³	milli	m
millionth	0.0001	10 ⁻⁴	micro	μ
billionth	0.00001	10 ⁻⁵	nano	n

Temperature

14

$$C = \frac{5}{9} (F - 32) \quad F = \frac{9}{5} (C + 32)$$

$$K = C + 273.15 \quad K = \left[\frac{5}{9} * (F) \right] + 459.67$$