Florida
Statewide Assessments

FAST/B.E.S.T./FSA Mathematics Reference Sheets Packet

- Grade 4 FAST Mathematics Reference Sheet
- Grade 5 FAST Mathematics Reference Sheet
- Grade 6 FAST Mathematics Reference Sheet
- Grade 7 FAST Mathematics Reference Sheet (2 pages)
- Grade 8 FAST Mathematics Reference Sheet (2 pages)
- B.E.S.T. Algebra 1 EOC Mathematics Reference Sheet
- B.E.S.T. Geometry EOC Mathematics Reference Sheet (2 pages)
- FSA Algebra 1 EOC Mathematics Reference Sheet
- FSA Geometry EOC Mathematics Reference Sheet (2 pages)

2022–2023

Grade 4 FAST Mathematics Reference Sheet

Customary Conversions

1 foot = 12 inches
1 yard = 3 feet

1 pint = 2 cups
1 quart = 2 pints
1 gallon = 4 quarts

1 pound = 16 ounces

Metric Conversions

1 meter = 100 centimeters
1 meter = 1000 millimeters
1 kilometer = 1000 meters

1 liter = 1000 milliliters

1 gram = 1000 milligrams
1 kilogram = 1000 grams

Time Conversions

1 minute = 60 seconds
1 hour = 60 minutes

Formulas

Rectangle $P = l + l + w + w$
$A = l \times w$

Key	
l = length w = width	P = perimeter A = area

Grade 5 FAST Mathematics Reference Sheet

Customary Conversions

1 foot = 12 inches
1 yard = 3 feet
1 mile = 5,280 feet
1 mile = 1,760 yards

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

1 pound = 16 ounces
1 ton = 2,000 pounds

Metric Conversions

1 centimeter = 10 millimeters
1 meter = 100 centimeters
1 meter = 1000 millimeters
1 kilometer = 1000 meters

1 liter = 1000 milliliters

1 gram = 1000 milligrams
1 kilogram = 1000 grams

Time Conversions

1 minute = 60 seconds
1 hour = 60 minutes
1 day = 24 hours
1 week = 7 days

Formulas

Rectangle	$P = l + l + w + w$ $P = 2l + 2w$ $A = l \times w$
Rectangular Prism	$V = l \times w \times h$ or $V = B \times h$

Key	
l = length w = width h = height B = area of the base	P = perimeter A = area V = volume

Grade 6 FAST Mathematics Reference Sheet

Customary Conversions

1 foot = 12 inches
1 yard = 3 feet
1 mile = 5,280 feet
1 mile = 1,760 yards

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

1 pound = 16 ounces
1 ton = 2,000 pounds

Metric Conversions

1 meter = 100 centimeters
1 meter = 1000 millimeters
1 kilometer = 1000 meters

1 liter = 1000 milliliters

1 gram = 1000 milligrams
1 kilogram = 1000 grams

Time Conversions

1 minute = 60 seconds
1 hour = 60 minutes
1 day = 24 hours
1 week = 7 days
1 year = 365 days
1 year = 52 weeks

Formulas

Rectangular Prism

$V = lwh$

or

$V = Bh$

Key	
l = length	B = area of base
w = width	V = volume
h = height	

Grade 7 FAST Mathematics Reference Sheet

Conversions within a System of Measure

Customary Conversions

1 foot = 12 inches
1 yard = 3 feet
1 mile = 5,280 feet
1 mile = 1,760 yards

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

1 pound = 16 ounces
1 ton = 2,000 pounds

Metric Conversions

1 meter = 100 centimeters
1 meter = 1000 millimeters
1 kilometer = 1000 meters

1 liter = 1000 milliliters

1 gram = 1000 milligrams
1 kilogram = 1000 grams

Time Conversions

1 minute = 60 seconds
1 hour = 60 minutes
1 day = 24 hours
1 week = 7 days
1 year = 365 days
1 year = 52 weeks

Conversions between Systems of Measure

Customary to Metric Conversion Approximations

1 inch = 2.54 centimeters
1 foot = 0.305 meters
1 mile = 1.61 kilometers

1 cup = 0.24 liters
1 gallon = 3.785 liters
1 ounce = 28.35 grams
1 pound = 0.454 kilograms

Metric to Customary Conversion Approximations

1 centimeter = 0.39 inches
1 meter = 3.28 feet
1 kilometer = 0.62 miles

1 liter = 4.23 cups
1 liter = 0.264 gallons
1 gram = 0.0352 ounces
1 kilogram = 2.204 pounds

Grade 7 FAST Mathematics Reference Sheet

Formulas

Parallelogram	$A = bh$
Or Rhombus	$A = lw$
Trapezoid	$A = \frac{1}{2}h(b_1 + b_2)$
Circle	$C = 2\pi r$ or $C = \pi d$ $A = \pi r^2$
Right Circular Cylinder	$V = Bh$ or $V = \pi r^2 h$

Key	
b = base h = height l = length w = width r = radius d = diameter B = area of base	A = area C = circumference V = volume

Simple Interest Formula

$$I = prt$$

where I = interest, p = principal, r = rate, t = time

Percent Error Formula

$$\frac{|Estimate - Actual|}{Actual} \times 100$$

Percent of Change

$$\frac{final\ value - initial\ value}{initial\ value} \times 100$$

Grade 8 FAST Mathematics Reference Sheet

Conversions within a System of Measure

Customary Conversions

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1 mile = 1,760 yards

1 cup = 8 fluid ounces
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1 quart = 2 pints
1 gallon = 4 quarts

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1 ton = 2,000 pounds

Metric Conversions

1 meter = 100 centimeters
1 meter = 1000 millimeters
1 kilometer = 1000 meters

1 liter = 1000 milliliters

1 gram = 1000 milligrams
1 kilogram = 1000 grams

Time Conversions

1 minute = 60 seconds
1 hour = 60 minutes
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1 week = 7 days
1 year = 365 days
1 year = 52 weeks

Conversions between Systems of Measure

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1 foot = 0.305 meters
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1 kilogram = 2.204 pounds

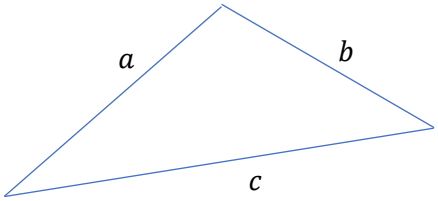
Formula

Slope Formula
$m = \frac{y_2 - y_1}{x_2 - x_1}$ where m = slope

Grade 8 FAST Mathematics Reference Sheet

Theorems

Triangle Inequality Theorem

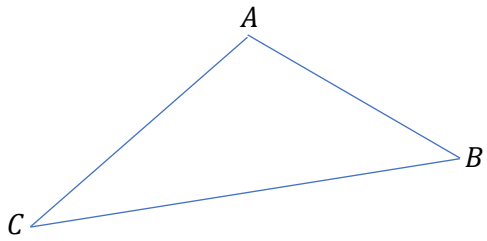


$a + b > c$

$a + c > b$

$b + c > a$

Triangle Sum Theorem



$m\angle A + m\angle B + m\angle C = 180°$

B.E.S.T. Algebra 1 EOC Mathematics Reference Sheet

Customary Conversions

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1 kilogram = 1000 grams

Time Conversions

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1 hour = 60 minutes
1 day = 24 hours
1 year = 365 days
1 year = 52 weeks

Formulas

Forms of Linear Equations	Forms of Quadratic Functions	Forms of Exponential Functions
$y = mx + b$ $Ax + By = C$ $y - y_1 = m(x - x_1)$	$f(x) = ax^2 + bx + c$ $f(x) = a(x - h)^2 + k$ $f(x) = a(x - p)(x - q)$	$f(x) = ab^x$ $f(x) = a(1 \pm r)^x$

Quadratic Formula
$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ where $ax^2 + bx + c = 0$ and $a \neq 0$

Final Amounts under Simple Interest	Final Amounts under Compound Interest
$A = P(1 + rt)$ where P = principal, r = rate, and t = time	$A = P\left(1 + \frac{r}{n}\right)^{nt}$ where P = principal, r = rate, n = number of times compounded, and t = time

B.E.S.T. Geometry EOC Mathematics Reference Sheet

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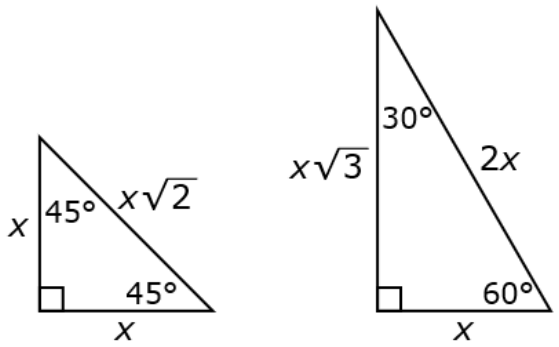
1 year = 52 weeks

Distance Formula	Midpoint Formula	Slope Formula
$d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$	$(x_M, y_M) = \left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2}\right)$	$m = \frac{y_2 - y_1}{x_2 - x_1}$

Special Right Triangles



B.E.S.T. Geometry EOC Mathematics Reference Sheet

Formulas

Parallelogram	$A = bh$
Trapezoid	$A = \frac{1}{2}h(b_1 + b_2)$
Circle	$C = 2\pi r$ or $C = \pi d$ $A = \pi r^2$
Regular Polygon	$A = \frac{1}{2}Pa$
Prism/Cylinder	$SA = 2B + Ph$ $V = Bh$
Cone	$SA = B + \pi r h_s$ or $SA = B + \pi r l$ $V = \frac{1}{3}Bh$
Regular Pyramid	$SA = B + \frac{1}{2}Ph_s$ or $SA = B + \frac{1}{2}Pl$ $V = \frac{1}{3}Bh$
Sphere	$SA = 4\pi r^2$ $V = \frac{4}{3}\pi r^3$

Key	
P = perimeter	A = area
a = apothem	C = circumference
h = height	SA = surface area
r = radius	V = volume
h_s = slant height	
l = slant height	
b = base	
d = diameter	
B = area of base	

Trigonometric Ratios		
$\sin\theta = \frac{opposite}{hypotenuse}$	$\cos\theta = \frac{adjacent}{hypotenuse}$	$\tan\theta = \frac{opposite}{adjacent}$

FSA Algebra 1 EOC Mathematics Reference Sheet

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FSA Geometry EOC Mathematics Reference Sheet

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1 year = 52 weeks

FSA Geometry EOC Mathematics Reference Sheet

Formulas

$\sin A° = \frac{\text{opposite}}{\text{hypotenuse}}$

$\cos A° = \frac{\text{adjacent}}{\text{hypotenuse}}$

$\tan A° = \frac{\text{opposite}}{\text{adjacent}}$

$V = Bh$

$V = \frac{1}{3}Bh$

$V = \frac{4}{3}\pi r^3$

$y = mx + b$, where m = slope and b = y-intercept

$y - y_1 = m(x - x_1)$, where m = slope and (x_1, y_1) is a point on the line