(Answerkey)

Anagha's Math Level 6 Adv - Week 10

We specialize in Advanced & School Level Math coaching for Grades: K- 12
In-person & Online Math Group classes, Privates, Semi-Privates
Our Mission: To educate, motivate and encourage every student to excel in mathematics.

Email: admin@anaghasmath.com Website: https://www.anaghasmath.com
Phone: (908)705-5397 & (425)830-9664
Correspondence Address: 7040 Cascade Ave SE, Snoqualmie, WA 98065

Topics covered in class	Pages explained in class	Required Homework pages (2 Moola point)
*Review of concepts covered in the previous weeks	Difficult concepts from this packet will be reviewed in class and the rest of the packet is homework.	Full packet is required homework this week

Test 1 will be conducted during regular class next week.
Use Answer-keys posted on Teams for Weeks 9 and 10. They are the review materials for Test 1

Test 1 Information:

- Test 1 in Week 11 during regular class. Study material in Weeks 9 and 10 packet.
- Sample test available for practice on Teams General channel during week 10.

For Online Students:

- Test link on Teams General channel. It will be Active only during class time.
- Latecomers may not complete the test. Tests that are submitted cannot be retrieved by us.
- Report cards will be posted on student channels by week 12.

For In-person Students:

- Paper test during regular class. Graded tests will be returned by week 12.

Moola Credits:

- Level K-5 (15 Moolas): $5 Amazon Gift Card. Level 6-9 (15 Moolas): Five extra test points.

Make-up Tests and Other Test-related Information:

- Missed class, take the test in make-up class.
- At-home make-up/retake test link emailed to parents on Friday evening.
- Must be taken under parent supervision by Sunday night.
- Writing supplies are allowed for all levels.
- **Grades K-6 Intermediate:** No calculators, media devices, or reference materials.
- **Grades 6 Adv-10:** No media devices/reference materials, but calculators allowed.

"Success during a test depends on the preparation put in before the test."

**** GOOD LUCK TO ALL STUDENTS****

Teacher/ TA Homework Grading & Comments:
For In-Person student use only

STUDENT NAME: _____

Students, complete homework to the best of your ability & check work using the answer keys posted in TEAMS.

Has the student checked packet using Answer Key?	Required homework (1 Moola earned)	Extra credit homework (1 Moola earned)	Total Moolas earned this week.	Teacher/TA Name
Yes / No	Yes / No	Yes / No	0 1 2	

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About Us:

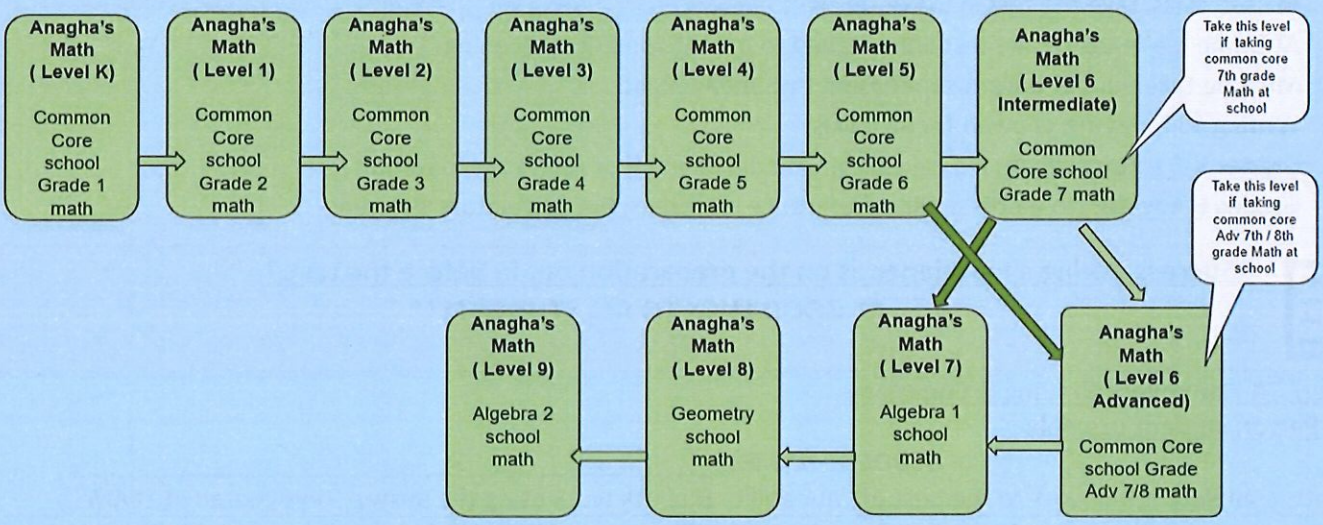
- We offer Advanced and School level math coaching to students from kindergarten to 12th grade.
- Classes are conducted In-person & online as small groups, private & semi-private tutoring throughout the year.
- Our teaching methodology and course curriculum enables students to learn mathematical fundamentals and concepts at their very foundations.
- This ensures a love for mathematics which then naturally flows into a successful school year with excellent grades.
- Anagha's Math Classes started with just a handful of students in Snoqualmie, WA. USA over 10 years ago.
- Today we have more than six hundred students nationwide and are still growing!
- The biggest compliment is our students continue with us over years till the end of the program.
- We are completely student-need focused and make our children be confident and independent Mathematicians!

Why our program is so effective?

- Our students develop lifelong critical thinking skills.
- Our curriculum not only meets common core requirements but also provides graduated challenges to those sharp eager minds!
- We are not dictated by any corporate office to deliver a set pattern of teaching material to our students.
- We have the flexibility to adapt our curriculum to match that of multiple school districts in USA.

Congrats to all our students! 95% of our students are in Advanced math at school.

Anagha's Math flowchart in comparison to school grades in USA



Program Highlights

- We offer in-person and online classes (Academic year and Summer programs).
- Unique one of a kind curriculum specifically designed to go beyond the needs of any school district in in United States.
- Our teaching style inculcated understanding on mathematics in a way that grows student confidence and ensures academic success.
- Experienced teachers who teach tips and tricks to mentally compute and/or solve problems in step by step manner.

Answer key

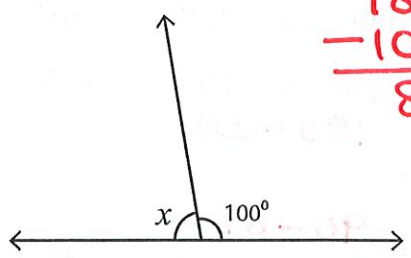
1,2

Sheet 1

Finding Supplementary Angles

Find the value of x in each supplementary angle pair. Sum is 180°

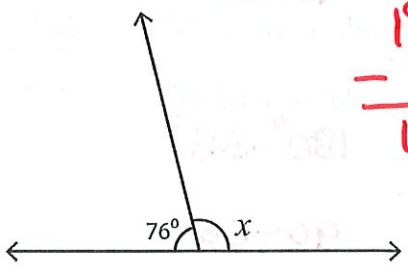
1)



180° − 100° = 80°

$x =$ 80°

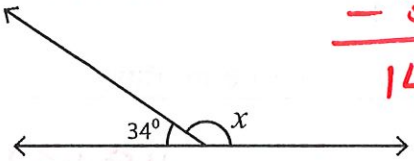
2)



180 − 76° = 104°

$x =$ 104°

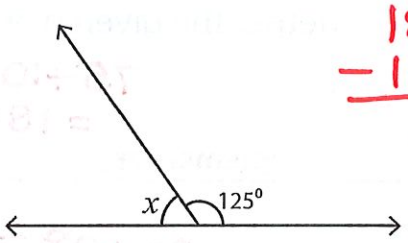
3)



180° − 34° = 146°

$x =$ 146°

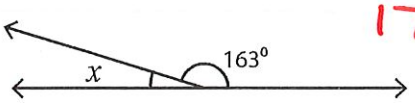
4)



180° − 125° = 55°

$x =$ 55°

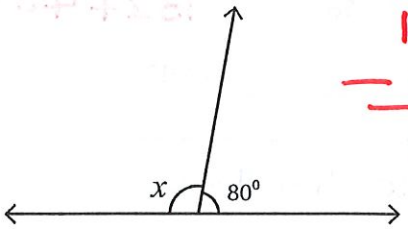
5)



180° − 163° = 17°

$x =$ 17°

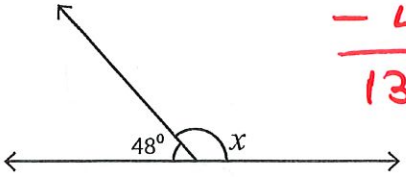
6)



180° − 80° = 100°

$x =$ 100°

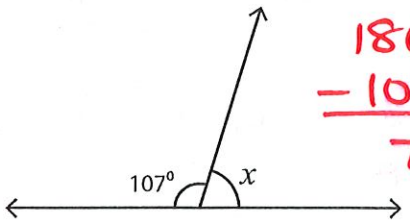
7)



180° − 48° = 132°

$x =$ 132°

8)



180° − 107° = 73°

$x =$ 73°

6A/10 Pg 1

Answer key

1, 2

T1S1

Complementary & Supplementary Angles - Revision

90
90°

A) Find the complement and supplement of each angle.

1) 35^0

$90^\circ - 35^\circ$

Complement of 35^0 = **55^0**

Supplement of 35^0 = **145^0**

$180^\circ - 35^\circ$

2) 20^0

$90 - 20$

Complement of 20^0 = **70^0**

Supplement of 20^0 = **160^0**

$180 - 20$

3) 66^0

$90 - 66$

Complement of 66^0 = **24^0**

Supplement of 66^0 = **114^0**

$180 - 66$

4) 81^0

$90 - 81$

Complement of 81^0 = **9^0**

Supplement of 81^0 = **99^0**

$180 - 81$

B) State whether the given pairs are complementary or supplementary.

1) $75^0, 105^0$

$75 + 105 = 180^\circ$

supplementary

2) $76^0, 14^0$

$76 + 14 = 90^\circ$

complementary

3) $62^0, 28^0$

$62 + 28 = 90^\circ$

complementary

4) $118^0, 62^0$

$118 + 62 = 180^\circ$

supplementary

5) $132^0, 48^0$

$132 + 48 = 180^\circ$

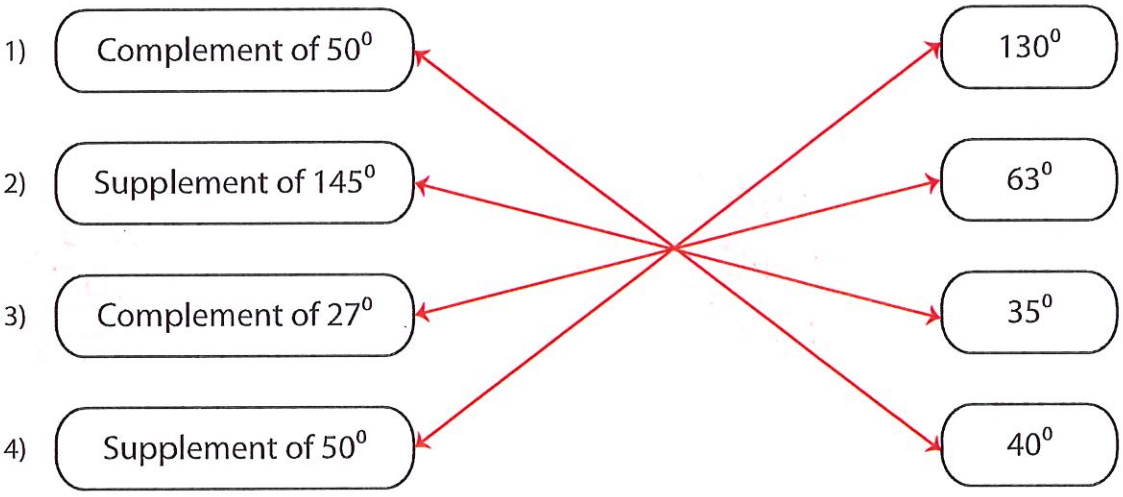
supplementary

6) $19^0, 71^0$

$19 + 71 = 90^\circ$

complementary

C) Match the following.



Answer Key

1,2

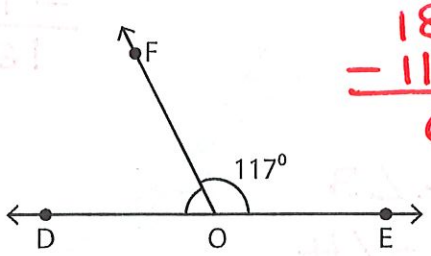
Linear Pairs

Sheet 1

Adjacent angles and Sum is 180°

Find the measure of the indicated angle in each linear pair.

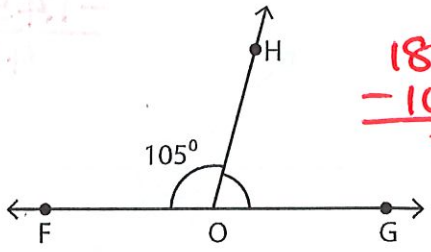
1)



180 − 117 = 63

m∠DOF = **63°**

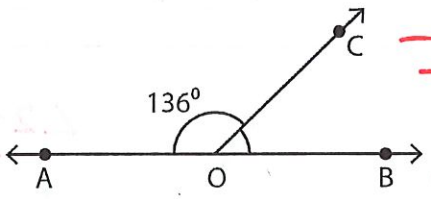
2)



180 − 105 = 75

m∠GOH = **75°**

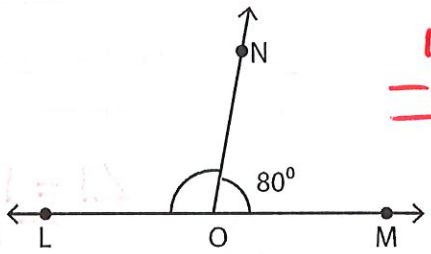
3)



180 − 136 = 44

m∠BOC = **44°**

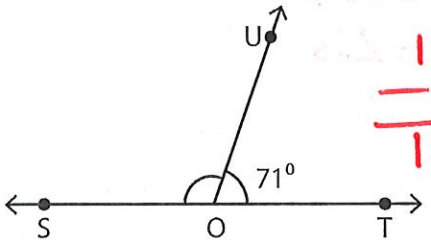
4)



180 − 80 = 100

m∠LON = **100°**

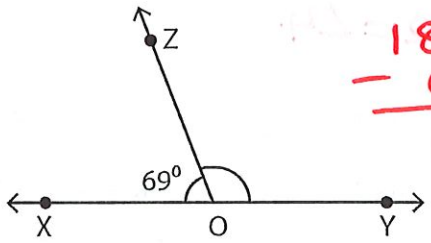
5)



180 − 71 = 109

m∠SOU = **109°**

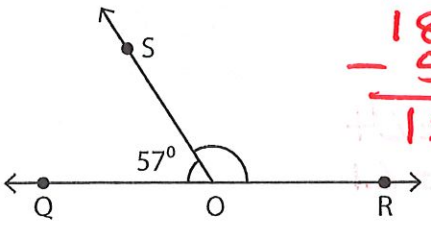
6)



180 − 69 = 111

m∠YOZ = **111°**

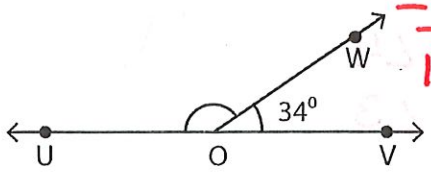
7)



180 − 57 = 123

m∠ROS = **123°**

8)



180 − 34 = 146

m∠UOW = **146°**

Answer Key

1,2

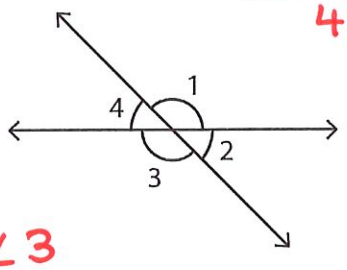
Sheet 1

Vertical Angles

Find the unknown angle.

1)

$\angle 2 = 180 - 135 = 45$



$\angle 1 = \angle 3$

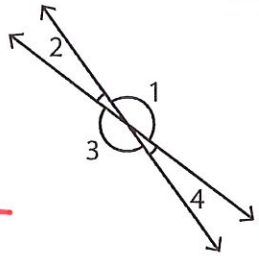
$\angle 2 = \angle 4$

$m\angle 1 =$ 135° , $m\angle 2 =$ **45°**

$m\angle 3 =$ **135°** , $m\angle 4 =$ **45°**

2)

$\angle 1 = 180 - 17 = 163$



$\angle 1 = \angle 3$

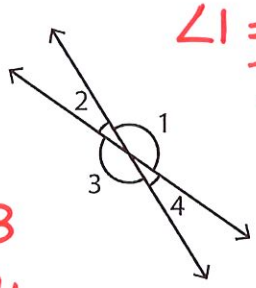
$\angle 2 = \angle 4$

$m\angle 1 =$ **163°** , $m\angle 2 =$ 17°

$m\angle 3 =$ **163°** , $m\angle 4 =$ **17°**

3)

$\angle 1 = 180 - 23 = 157$



$\angle 1 = \angle 3$

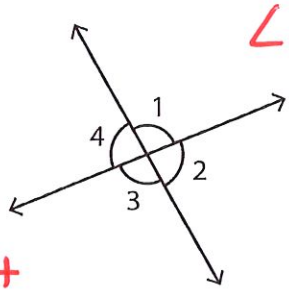
$\angle 2 = \angle 4$

$m\angle 1 =$ **157°** , $m\angle 2 =$ 23°

$m\angle 3 =$ **157°** , $m\angle 4 =$ **23°**

4)

$\angle 2 = 180 - 97 = 83$



$\angle 2 = \angle 4$

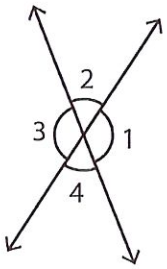
$\angle 1 = \angle 3$

$m\angle 1 =$ **97°** , $m\angle 2 =$ **83°**

$m\angle 3 =$ 97° , $m\angle 4 =$ **83°**

5)

$\angle 2 = 180 - 125 = 55$



$\angle 2 = \angle 4$

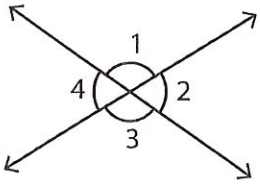
$\angle 1 = \angle 3$

$m\angle 1 =$ **125°** , $m\angle 2 =$ **55°**

$m\angle 3 =$ 125° , $m\angle 4 =$ **55°**

6)

$\angle 2 = 180 - 113 = 67$



$\angle 2 = \angle 4$

$\angle 3 = \angle 1$

$m\angle 1 =$ 113° , $m\angle 2 =$ **67°**

$m\angle 3 =$ **113°** , $m\angle 4 =$ **67°**

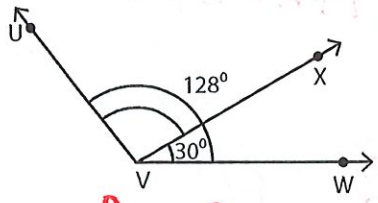
Answer key

Pairs of Angles

Sheet 1

Find the measure of each indicated angle.

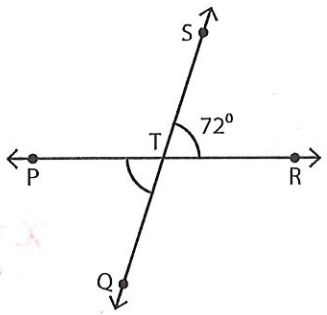
1)



120°-30°

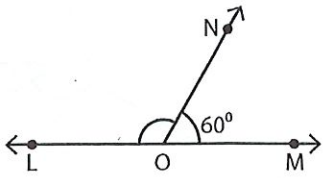
m∠UVX = **98°**

2)



m∠PTQ = **72°**

3)

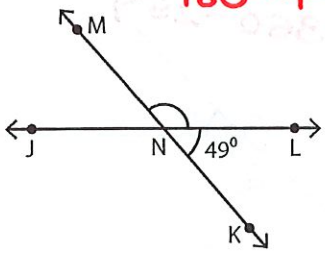


180°-60°

m∠LON = **120°**

4)

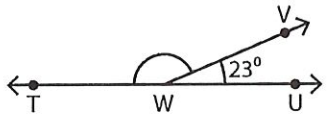
180-49°



m∠MNL = **131°**

5)

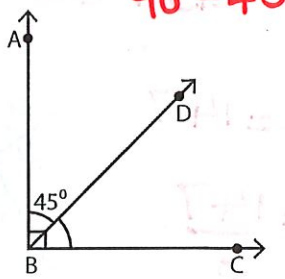
180°-23°



m∠TWV = **157°**

6)

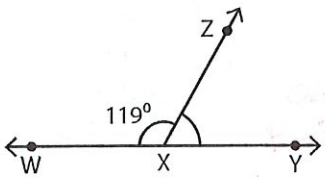
90°-45°



m∠DBC = **45°**

7)

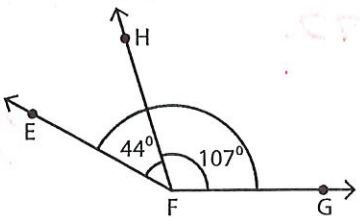
180°-119°



m∠YXZ= **61°**

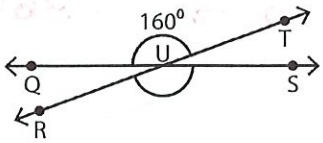
8)

44°+107°



m∠EFG = **151°**

9)



m∠RUS = **160°**

GA 7/10 Pg 5

Answer key

1-4

Sheet 1

Angles Around a Point

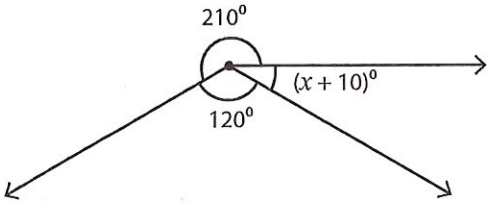
Find the value of x.

Sum (all angles) $= 360^\circ$

1)

$210 + 120 + x + 10 = 360^\circ$

$340 + x = 360$



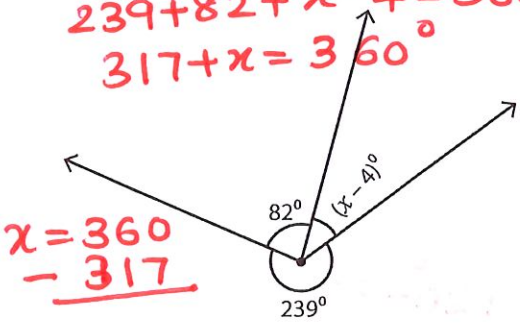
$x =$ **20**

2)

$239 + 82 + x - 4 = 360^\circ$

$317 + x = 360^\circ$

$x = 360 - 317$



$x =$ **43**

3)

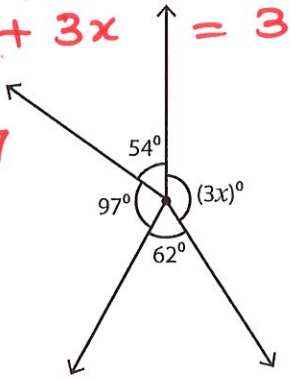
$97 + 54 + 3x + 62 = 360^\circ$

$213 + 3x = 360$

$3x = 147$

$x = \frac{147}{3}$

$x = 49$



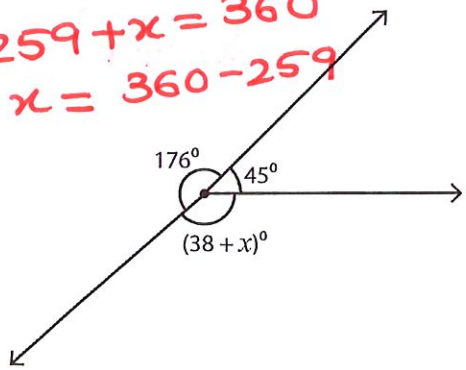
$x =$ **49**

4)

$176 + 45 + 38 + x = 360^\circ$

$259 + x = 360$

$x = 360 - 259$



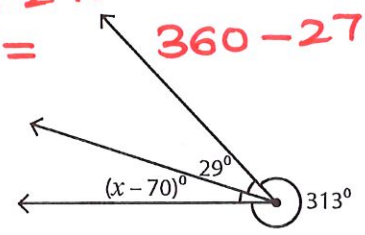
$x =$ **101**

5)

$x - 70 + 29 + 313 = 360$

$x + 272 = 360$

$x = 360 - 272$



$x =$ **88**

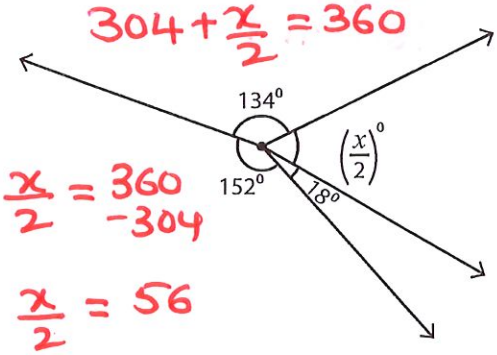
6)

$134 + 152 + 18 + \frac{x}{2} = 360$

$304 + \frac{x}{2} = 360$

$\frac{x}{2} = 360 - 304$

$\frac{x}{2} = 56$



$x =$ **112**

1.	Bonnie has twice as many cousins as Robert. George has 5 cousins, which is 11 less than Bonnie has. How many cousins does Robert have? a. 17 b. 21 c. 4 d. 8 (circled) B | R | G 2x | x | 5 $2x - 11 = 5$ $2x = 16$ $x = 8$	Oscar sold 2 glasses of milk for every 5 sodas he sold. If he sold 10 glasses of milk, how many sodas did he sell? a. 45 b. 20 c. 25 d. 10 Soda | milk 5 | 2 x | 10 $x = \frac{5 \times 10}{2} = 5 \times 5 = 25$	Mr. Brown plowed 6 acres in 1 hour. At this rate, how long will it take him to plow 21 acres? a. 3 hours b. 4 hours c. 3.5 hours d. 4.75 hours time | acres 1 | 6 x | 21 $x = \frac{1 \times 21}{6} = 3\frac{3}{6}$ $= 3\frac{1}{2} = 3.5$
	8 cousins	25 Sodas	3.5 Hours
2.	Bella spent 3/4 of her savings on furniture and the rest on a TV. If the TV cost her $200, what were her original savings? $\frac{1}{4}$th (saving) = TV $\frac{1}{4} \times$ (saving) = 200 Savings $= 200 \times 4$	A car covers 75 km in one hour. How many meters does the car travel in one minute at a constant rate? time | distance 60 min | 75000 m 1 min | x $x = \frac{75000}{60} = 1250$	A car covers 150 km in 2 hours. How many meters does the car travel in 2 minutes at a constant rate? time | distance 120 min | 150 km 2 min | x $x = \frac{2 \times 150}{120} = \frac{15}{6}$ $= 2.5$
	$ 800	1250 meters	2.5 km
3.	What is 2^5? a. 10 b. 15 c. 32 d. 16 $(2)^5$ $= 2 \times 2 \times 2 \times 2 \times 2$ $= 8 \times 4$	What is 2^8? $(2)^8$ $= (2^5) \times (2)^3$ $= (2 \times 2 \times 2 \times 2 \times 2) \times (2 \times 2 \times 2)$ $= 32 \times 8$	What is $(-4)^4$? $(-4)^4$ $= (-4)(-4)(-4)(-4)$ $= 16 \times 16$
	32	256	256
4.	Find: x $\frac{4}{11} = \frac{x+58}{77}$ $\frac{4 \times 7}{11 \times 7} = \frac{x+58}{77}$ $28 = x + 58$ $28 - 58 = x$	Find: x $\frac{28+4x}{8} = \frac{1}{2}$ $\frac{28+4x}{8} = \frac{4}{8}$ $28 + 4x = 4$ $4x = -24$ $x = -6$	Find: x $\frac{5x-3}{63} = \frac{9}{21}$ $\frac{(5x-3)}{63} = \frac{9 \times 3}{63}$ $5x - 3 = 27$ $5x = 27 + 3$ $5x = 30$
	$x = -30$	$x = -6$	$x = 6$

5.	Round your answer to the nearest hundredth. What is 91% of 9.45? $\frac{91}{100} \times 9.45$ $= 0.91 \times 9.45$ $= 8.5995$ ≈ 8.6 945 × 91 = 8505 + 94500 = 85995 8.6	Round your answer to the nearest hundredth. What is 13% of 93.86? $= \frac{13}{100} \times 93.86$ $= 0.13 \times 93.86$ $= 12.2018$ ≈ 12.2 9386 × 13 = 28158 + 93860 = 122018 12.2	Round your answer to the nearest hundredth. What is 6% of 2.07? $= \frac{6}{100} \times 2.07$ $= 0.06 \times 2.07$ $= 0.1242$ ≈ 0.12 207 × 6 = 1242 0.12
6.	Dan uses a 52-inch flat steel bar that weighs 10.4 lb. to make a rack in the garage. Find the weight of a 67-inch steel bar. (in) length | weight (lbs) 52 | 10.4 67 | x $x = \frac{67 \times 10.4}{52}$ $= 134/10$ 13.4	Anna bought a pack of 12 cookies for 3.50 from the supermarket. How many cookies can she buy for 17.50? Cookies | Cost 12 | \$ 3.50 x | \$ 17.50 $x = \frac{12 \times 17.5}{3.5}$ $= \frac{12 \times 175}{35} = 60$ 60 Cookies	Rema runs 6.8 miles in 34 minutes. How much distance is covered in 10 minutes at a constant rate? distance | time (min) 6.8 | 34 x | 10 $x = \frac{6.8 \times 10}{34}$ $= \frac{68}{34} = 2$ 2 miles
7.	$p = -1$ *and* $q = -3$. Find the value of: pq^2 pq^2 $= (-1)(-3)^2$ $= (-1)(9)$ $= -9$ −9	$p = -1$ *and* $q = -3$. Find the value of: $(pq)^2$ $(pq)^2$ $= (-1 \times -3)^2$ $= (3)^2$ $= 9$ 9	A quadrilateral in which all 4 sides are equal, is called a ... A rectangle. B parallelogram. C rhombus. D kite.  Rhombus
8.	If you add negative 3 to one-third of a number, you get 10. What is the number? $\left(\frac{1}{3}x\right) + (-3) = 10$ $\frac{1}{3}x - 3 = 10$ $\frac{1}{3}x = 13$ $x = 13 \times 3$ 39	If you subtract 3 from a number and divide the difference by 8, you get negative 5. What is the number? $\frac{x-3}{8} = -5$ $x - 3 = -5 \times 8$ $x - 3 = -40$ $x = -40 + 3$ −37	A set of points with a definite starting-point and no definite endpoint is called a ... A line segment. B ray. C straight line. D perpendicular line.  Ray

Find GCF and LCM (leave in product form if necessary)

÷	$10a^2b$, $20ab^2$
10	a^2b , ab^2
ab	a , b

GCF = $10ab$

LCM = $10a^2b^2$

÷	$3xy^3$, $9yx^3$
3	xy^3 , $3yx^3$
xy	y^2 , $3x^2$

GCF = $3xy$

LCM = $9x^3y^3$

÷	$6a^2b^2$, $18ab$
6	a^2b^2 , $3ab$
ab	ab , 3

GCF = $6ab$

LCM = $18a^2b^2$

÷	$35xy$, $25x^2y^2$
5	$7xy$, $5x^2y^2$
xy	7 , $5xy$

GCF = $5xy$

LCM = $175x^2y^2$

÷	$3ab$, $5ab^2$, $2a$
a	$3b$, $5b^2$, 2
b	3 , $5b$, 2

GCF = a

LCM = $30ab^2$

÷	$5ab$, $15a^2$, $2b$
1	$5ab$, $15a^2$, $2b$
5	ab , $3a^2$, $2b$
a	b , $3a$, $2b$
b	1 , $3a$, 2

GCF = 1

LCM = $30a^2b$

6A/10-Pg (9)

1	What is the cube root of 64? $\sqrt[3]{64}$ $= \sqrt[3]{4 \times 4 \times 4}$	What is the square root of cube root of 64? $\sqrt{\sqrt[3]{64}}$ $= \sqrt{4}$ $= \sqrt{2 \times 2}$	What is the square of 0.12? 0.12×0.12 0.0144
	4	2	0.0144
2	What is the sum of all the prime factors of 99? $99 \div 3 = 33$ $33 \div 3 = 11$ $11 \div 11 = 1$ $3 + 3 + 11$	Find X if twice X plus one is 17. $2(x) + 1 = 17$ $2x = 16$ $x = 8$	What is the square of 20 minus the square of 5. $(20)^2 - (5)^2$ $= 400 - 25$ $= 375$
	17	8	375
3	If seven more than my number is seven less than seventy, what is seven less than my number? $x + 7 = 70 - 7$ $x + 7 = 63$ $x = 63 - 7$ $x = 56$ $56 - 7$	The product of seven times eight times two is the same as the sum of eighty-nine and what number? $7 \times 8 \times 2 = 89 + \square$ $112 = 89 + \square$ $\square = 112 - 89$	If Andy got 17 out of 20 problems right on his math test, what percent of the problems did he get right? $\frac{17}{20} \times 100\ \%$ $= 17 \times 5$
	49	23	85%

1 Conversion Chart

Hint to remember: King Henry doesn't usually drink chocolate milk

Kilo	Hecto	Deca	UNIT	Deci	Centi	Milli
Kilo-gram	Hecto-gram	Decca-gram	Gram	Deci-gram	Centi-gram	Milli-gram
Kilo-meter	Hecto-meter	Decca-meter	Meter	Deci -meter	Centi -meter	Milli-meter
Kilo-liter	Hecto-liter	Decca-liter	Liter	Deci-liter	Centi -liter	Milli-liter

Hint: 1 meter (m) = 100 centimeter (cm), 1 meter(m) = 1000 millimeter(mm) , 1 cm = 10 mm

a) 19 m = ____ cm	19x100 = 1900	1900 cm
b) 4.5 m = ____ cm	4.5x100 = 450	450 cm
c) 5.06 m = ____ cm	5.06x100 = 506	506 cm
d) 1.534 m = ____ cm	1.534x100 = 153.4	153.4 cm
e) 9400 cm = ___ m	9400÷100 = 94	94 m
f) 940 cm = ___ m	940 ÷ 100 = 9.4	9.4 m
g) 94 cm = ____ m	94 ÷100 = 0.94	0.94 m
h) 0.94 cm = ____ m	0.94÷100 = 0.0094	0.0094 m
i) 51 m = ___ mm	51 x1000 = 51000	51000 mm
j) 6.12 m = ___ mm	6.12x1000 = 6120	6120 mm
k) 3.165 m = ___ mm	3.165x1000 = 3165	3165 mm
l) 500 m = ___ mm	500 x1000 = 500000	500,000 mm
m) 5600 m = ____ mm	5600x1000 = 5600000 mm	5.6×10^6 mm
n) 560 m = ____ mm	560x 1000 = 560000 mm	5.6×10^5 mm
o) 450 cm = ___ mm	450x10 = 4500 cm	4500 cm
p) 0.876 cm = ___ mm	0.876x10 = 8.76 cm	8.76 cm
q) 7000 mm = ____ cm	7000÷10 = 700	700 cm
r) 700 mm = ____ cm	700 ÷10 = 70	70 cm
s) 7 mm = ____ cm	7÷10	0.7 cm
t) 0.064 mm = ____ cm	0.064 ÷ 10	0.0064 cm
u) 0.64 mm = ____ cm	0.64÷ 10	0.064 cm

GA 10 Pg (11)

1 Write the numbers in standard form

5.89×10^1	5.89×10^3	5.89×10^4	5.89×10^6
5.89×10	5.89×1000	5.89×10000	5.89×1000000
58.9	5890	58900	5890000

5.8×10^{-1}	5.89×10^{-3}	5.8×10^{-4}	5.8×10^{-5}
5.8	0.0058	0.0005.8	0.00005.8
0.58	0.0058	0.00058	0.000058

7.6×10^{-1}	7.6×10^{-3}	7.6×10^{-4}	7.6×10^{-5}
7.6	0.007.6	0.0007.6	0.00007.6
0.76	0.0076	0.00076	0.000076

2 Simplify

$(-4p^5) + (-2p^5 - 3p^4)$	$(-x^3) + (-2x^3)$	$(11x) + (-5xy^3) + (-4xy^3)$
$-4p^5 - 2p^5 - 3p^4$	$-1x^3$ $-2x^3$	$11x - 5xy^3$ $-4xy^3$
$-6p^5 - 3p^4$	$-3x^3$	$-9xy^3 + 11x$

$(x^6y^2) - (3y^2x^6) + (5x^6y^2)$	$(-m^5) - (9m^4 + 7m^5)$	$(-x^4 + 20x) - (-6x^4)$
$1x^6y^2$ $-3x^6y^2$ $+5x^6y^2$	$-1m^5 - 9m^4$ $-7m^5$	$-1x^4 + 20x$ $+6x^4$
$3x^6y^2$	$-8m^5 - 9m^4$	$5x^4 + 20x$

3 Twenty percent of a number is eighteen. What is the number?

Parts	×5	Whole
20		100
18		x

18×5

90

20% percent of a number is 6. What is the number?

Parts	Whole
20 ×5	100
6 ×5	x

30

GA /10 Pg 12

1 Are the given numbers completely divisible by

2,560	7,299	5,730	7500
Divisible by 3? Yes / (No)	Divisible by 3? (Yes) / No	Divisible by 3? (Yes) / No	Divisible by 3? (Yes) / No
Divisible by 9? Yes / (No)	Divisible by 9? (Yes) / No	Divisible by 9? Yes / (No)	Divisible by 9? Yes / (No)
Divisible by 6? Yes / (No)	Divisible by 6? Yes / (No)	Divisible by 6? (Yes) / No	Divisible by 6? (Yes) / No
Divisible by 4? (Yes) / No	Divisible by 4? Yes / No	Divisible by 4? Yes / (No)	Divisible by 4? (Yes) / No
$2+5+6+0=13$	$7+2+9+9=27$	$5+7+3+0=15$	$7+5+0+0=12$
$60 \div 4 =$ Yes	Not divisible by 3	Divisible by 3 & 2	
		$30 \div 4$ No	

2 Circle the numbers that are perfect squares

8	12	24	60	(64)
(196)	343	100	50	200
(196)	(81)	(169)	50	166

$8 \times 8 = 64$
$10 \times 10 = 100$
$9 \times 9 = 81$
$14 \times 14 = 196$
$13 \times 13 = 169$

Circle the numbers that are perfect cubes

(8)	24	60	(64)	125
144	200	(27)	(1000)	333
196	(343)	100	50	166

$(2)^3 = 8$
$(4)^3 = 64$
$(3)^3 = 27$
$(7)^3 = 343$
$(10)^3 = 1000$

3 How many even numbers are from 20 and 40?

20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40

11 numbers

What is the sum of prime numbers that are less than 20?

$2+3+5+7+11+13+17+19 = 60+10+7$

77

The product of 8, negative 3, and my number is negative 24. What is my number?

$(8)(-3)(\ ) = -24$
$-24\ (\ ) = -24$

1

4 Find the value of

$\left(-\frac{1}{2}\right)^5 = \frac{(-1)^5}{(2)^5}$ $\frac{-1}{32}$

$\left(-\frac{3}{5}\right)^3 = \frac{(-3)^3}{(5)^3}$ $\frac{-27}{125}$

$\left(\frac{11}{13}\right)^2 = \frac{11 \times 11}{13 \times 13}$ $\frac{121}{169}$

$(-4+5)^3 = (1)^3 = 1 \times 1 \times 1$ 1

5 Solve the following absolute value expressions

$|-13+5| = |-8|$ 8

$|(-3+5)^2| = |(2)^2| = |2 \times 2| = |4|$ 4

$-|(5-6)| = -|-1| = -(1)$ -1

1 Solve using rules of PEMDAS

$20-(-6)+15-(-12)$	$(4)-(-6)\div(2)-(-12)$	$-(-3)\times 4+(-18)\div(3)$
$=20+6+15+12$ $=26+27$ 53	$4+6\div 2+12$ $4+3+12$ $=7+12$ 19	$3\times 4-18\div 3$ $=12-6$ 6

2 Find the value of

$50-6(12\div 4)-2^2$	$(16)^2\div[(12+4)-2^3]$
$=50-6(3)-(2\times 2)$ $=50-18-4$ $=32-4$ 28	$=(16\times 16)\div[16-(2\times 2\times 2)]$ $=256\div[16-8]$ $=256\div 8$ 32

$8\overline{)256}$ 32, $=24$, 16, $=16$, 0

3 Prime factorize

704	500	680	187
÷ | 704 2 | 352 2 | 176 2 | 88 2 | 44 2 | 22 2 | 11 11 | 1	÷ | 500 2 | 250 2 | 125 5 | 25 5 | 5 5 | 1	÷ | 680 2 | 340 2 | 170 2 | 85 5 | 17 17 | 1	÷ | 187 11 | 17 17 | 1

$11\overline{)187}$ 17, $=11$, 77, -77, 0

4 Find the value of

$(512)\div(0.1)=$	$(512)\div(0.01)=$	$(512)\div(10)=$	$(512)\div(0.2)=$
$\frac{512\times 10}{0.1\times 10}=\frac{5120}{1}$ 5120	$\frac{512\times 100}{0.01\times 100}$ 51,200	$\frac{512}{10}$ 51.2	$\frac{512\times 10}{0.2\times 10}=\frac{5120}{2}$ 2560

$(16.82)\div(0.1)=$	$(16.82)\div(0.01)=$	$(16.82)\div(10)=$	$(16.82)\div(0.2)=$
$=\frac{16.82\times 10}{0.1\times 10}$ 168.2	$\frac{16.82\times 100}{0.01\times 100}$ 1682	$\frac{16.82}{10}$ 1.682	$\frac{16.82\times 10}{0.2\times 10}=\frac{168.2}{2}$ 84.1

6A/10 Pg (14)

1 Find the value of

$(512) * (0.5) =$	$(512) * (0.03) =$	$(512) * (1.1) =$
$\begin{array}{r} {\scriptstyle 1} \\ 512 \\ \times\ 5 \\ \hline 2560 \end{array}$ $= 256$	$\begin{array}{r} 512 \\ \times\ 3 \\ \hline 0015.36 \end{array}$	$\begin{array}{r} 512 \\ \times\ 11 \\ \hline 512 \\ +5120 \\ \hline 5632 \end{array}$
256.0	15.36	563.2

2 Find the value of

$(2.153) \times (30)$	$(0.153) \times (60)$	Sum of One- tenth & Two-hundredth
$\begin{array}{r} {\scriptstyle 1} \\ 2153 \\ \times\ 3 \\ \hline 6459 \end{array}$ 645.900	$\begin{array}{r} {\scriptstyle 3\ 1\ \ 1} \\ 153 \\ \times\ 6 \\ \hline 918 \end{array}$ 09.180	$\frac{1}{10} + \frac{2}{100}$ $= \frac{1}{10} \times \left(\frac{10}{10}\right) + \frac{2}{10}$ $= (10/100) + (2/100)$ $12/100 \div 4/4 = 3/25$
645.9	9.18	

3 Simplify

$(-2.4) - (-3.2) - (-0.3) =$	$3 - 6.8 - (-10.5) =$
$= -2.4 + 3.2 + 0.3$ $= 0.8 + 0.3$ 1.1	$= 3 - 6.8 + 10.5$ $= 3.0 - 6.8 + 10.5$ $= -3.8 + 10.5$ $\begin{array}{r} {\scriptstyle 9\ \ 15} \\ \cancel{10}.\cancel{5} \\ -\ 3.8 \\ \hline 6.7 \end{array}$ 6.7

4

What should be added to (-5.06) to get (6.06)?	What should be subtracted from (-5.06) to get (6.06)?	The sum of what number and (-5.18) gives (-1.3)
$(-5.06) + \square = 6.06$ $\square = 6.06 + 5.06$ 11.12	$(-5.06) - \square = 6.06$ $-\square = 6.06 + 5.06$ $-\square = 11.12$ -11.12	$\square + (-5.18) = -1.3$ $\square = (-1.3) + (5.18)$ $\begin{array}{r} {\scriptstyle 4\ \ 11} \\ 5.\cancel{1}\cancel{8} \\ -1.30 \\ \hline 3.88 \end{array}$ 3.88

6A/10 Pg (15)

1 Arrange the given numbers in ascending order (Smallest to largest)

−50, − 46, − 21, − 80

−80	−50	−46	− 21

−5.19, − 6.19, − 60.19, − 7.19

−60.19	−7.19	−6.19	−5.19

−5.632, − 4.7, − 5 · 36, − 4.79

−5.632	−5.36	−4.79	−4.7

2 Classify as terminating or recurring decimal

31.32323232...	31.32	31.322222..	31.321
$31.\overline{32}$	31.32000	$31.3\overline{2}$	31.321000
*Terminating	*Terminating	*Terminating	*Terminating
* Recurring	* Recurring	* Recurring	* Recurring

3 Solve

$8\frac{2}{3} - 1\frac{3}{2}$

$7 + \frac{2}{3} - \frac{3}{2}$

$= 7 + \frac{2}{3}\left(\frac{2}{2}\right) - \frac{3}{2}\left(\frac{3}{3}\right)$

$= 7 + \frac{4}{6} - \frac{9}{6}$

$= 7 - \frac{5}{6}$

$6\frac{1}{6}$

$\left(-1\frac{5}{9}\right) \times \left(\frac{9}{28}\right)$

$= \left(-\frac{14}{9}\right) \times \left(\frac{9}{28}\right)$

$= -\frac{1}{2}$

$\frac{1}{2}$

$\left(1\frac{3}{5}\right) \div \left(2\frac{1}{5}\right)$

$\left(\frac{8}{5}\right) \div \left(\frac{11}{5}\right)$

$= \frac{8}{5} \times \frac{5}{11}$

$\frac{8}{11}$

$7\frac{1}{12} - 1\frac{1}{2} + 3\frac{1}{4}$

$= (7 - 1 + 3) + \frac{1}{12} - \frac{1}{2} + \frac{1}{4}$

$= 9 + \frac{1}{12} - \frac{6}{12} + \frac{3}{12}$

$= 9 - \frac{2}{12}$

$= 9 - \frac{1}{6}$

$8\frac{5}{6}$

$\left[\left(\frac{8}{9}\right) \times \left(-\frac{27}{32}\right)\right] \times \frac{1}{3}$

$= \left(\frac{-8 \times 27}{9 \times 32}\right) \times \frac{1}{3}$

$= -\frac{3}{4} \times \frac{1}{3}$

$= -\frac{1}{4}$

$-\frac{1}{4}$

$\frac{21}{4} \div \left(\frac{1}{8}\right) + \left(\frac{1}{6} \times \frac{4}{4}\right)$

$= \frac{21}{4} \div \left(\frac{3}{24} + \frac{4}{24}\right)$

$= \frac{21}{4} \div \frac{7}{24}$

$= \frac{21}{4} \times \frac{24}{7}$

18

GA /10 Pg (16)

Answer Key

Translating Phrases: Multi-Step Equations

Sheet 1

Translate each verbal phrase into an algebraic equation.

1) Twice the difference between 6 times h and 3 gives 30 — $2(6h - 3) = 30$

2) Sum of 5 times z and 4 divided by two is 7 — $\frac{5z + 4}{2} = 7$

3) Twenty-two minus the product of 7 and y yields 1 — $22 - 7y = 1$

4) Quotient of 8 lowered by 2 times t and 3 is two — $\frac{8 - 2t}{3} = 2$

5) Three-fourths of x added to twice of x gives 11 — $\frac{3x}{4} + 2x = 11$

6) 5 times together of 6 and 4 multiplied by g is equivalent to 50 — $5(6 + 4g) = 50$

7) Altogether of 9 and two-thirds of k alike 13 — $9 + \frac{2k}{3} = 13$

8) 7 raised by thrice of c dropped by factor of five is 2 — $\frac{7 + 3c}{5} = 2$

9) 8 divides total of 3 times f and six equals 3 — $\frac{3f + 6}{8} = 3$

10) Volume of 8 and the product of 5 and q increased by 6 yields 88 — $8(5q + 6) = 88$

GA 10 - Pg (17)

Name : _____

Multi-Step Equations: Integers

Level 1: S5

Solve each equation.

1) $1 = \frac{2(t + 13)}{10 + t}$

$1(10+t) = 2(t+13)$

$10+t = 2t+26$

$1t-2t = 26-10$

$-t = 16$

$\boxed{t = -16}$

2) $-5(3d + 8) = 35$

$-15d - 40 = 35$

$-15d = 35+40$

$-15d = 75$

$d = \frac{75}{-15}$ $\boxed{d = -5}$

3) $\frac{p - 16}{5} = p + 4$

$(p-16) = 5(p+4)$

$1p-16 = 5p+20$

$1p-5p = 20+16$ $\boxed{p=-9}$

$-4p = 36$

$p = 36/-4$

4) $8(2y - 1) = 3(16 + 3y)$

$16y-8 = 48+9y$

$16y-9y = 48+8$

$7y = 56$

$\boxed{y = 8}$

5) $13n - 28 = 9n + 32$

$13n-9n = 32+28$

$4n = 60$

$n = \frac{60}{4} = 15$

$\boxed{n=15}$

6) $21 - 9f = -20(f - 6)$

$21-9f = -20f+120$

$-9f+20f = 120-21$

$11f = 99$

$\boxed{f = 9}$

7) $47 = 2(w - 1) + 5w$

$47 = 2w-2+5w$

$47+2 = 7w$

$49 = 7w$ $\boxed{w=7}$

$w = \frac{49}{7} = 7$

8) $3 = \frac{-3(11 - s)}{7}$

$(3\times7) = -3\times11+3s$

$21 = -33+3s$

$21+33 = 3s$

$3s = 54$

$s = \frac{54}{3}$

$\boxed{s=18}$

C2

Anagha's Math Level 6: Solving Linear equations and inequations ID: 1

Solve each equation.

1) $-(1+x)-8(-8x+8)=-65$

$-1-x+64x-64=-65$

$63x-65=-65$

$63x=0$

$x=0$

$x=0$

2) $4(-8x+2)+4(-7x-6)=-76$

$-32x+8-28x-24=-76$

$-60x-16=-76$

$-60x=-60$

$x=-60/-60$

$x=1$

3) $-4(2-8x)-8(2+6x)=72$

$-8+32x-16-48x=72$

$-24-16x=72$

$-16x=96$

$x=\frac{96}{-16}$

$x=-6$

4) $-7(-6x-3)-5(-6x-1)=26$

$42x+21+30x+5=26$

$72x+26=26$

$72x=0$

$x=0/72=0$

$x=0$

5) $-(-2v+2)+7(2v+4)=26$

$2v-2+14v+28=26$

$16v+26=26$

$16v=0$

$v=0$

$v=0$

6) $-8(v-1)-7(1+v)=-59$

$-8v+8-7-7v=-59$

$-15v+1=-59$

$-15v=-60$

$v=-60/-15$

$v=4$

7) $-3(1-6b)-7(-5+7b)=32$

$-3+18b+35-49b=32$

$32-31b=32$

$-31b=0$

$b=0$

$b=0$

8) $3(-7+3b)-8(4+7b)=-53$

$-21+9b-32-56b=-53$

$-53-47b=-53$

$-47b=0$

$b=0/-47$

$b=0$

9) $-6(6r-5)+4(-5r-8)=54$

$-36r+30-20r-32=54$

$-56r-2=54$

$-56r=56$

$r=\frac{56}{-56}$

$r=-1$

10) $-5(r+6)-4(1-6r)=4$

$-5r-30-4+24r=4$

$19r-34=4$

$19r=38$

$r=38/19$

$r=2$

Adv 6/10 - Pg (19)

C2

11) $6(r-3)=4(2r-2)$

$6r-18=8r-8$

$-2r=10$

$r=10/-2$

$r=-5$

12) $7(1+6n)=-(5n-7)$

$7+42n=-5n+7$

$42n+5n=7-7$

$47n=0$

$n=0$

13) $-5+7(b-5)=6(b-5)$

$-5+7b-35=6b-30$

$7b-40=6b-30$

$7b-6b=-30+40$

$b=10$

$b=10$

14) $5(-5v-7)=-3(3v+8)+5$

$-25v-35=-9v-24+5$

$-25v+9v=-19+35$

$-16v=16$

$v=\frac{16}{-16}=-1$

$v=-1$

15) $-4-8(5a+2)=-4(a-4)$

$-4-40a-16=-4a+16$

$-40a-20=-4a+16$

$-36a=36$

$a=36/-36$

$a=-1$

16) $-4(1+3n)-2n-3=-7(1+2n)$

$-4-12n-2n-3=-7-14n$

$-7-14n=-7-14n$

$-14n+14n=-7+7$

$0=0$

All real numbers

17) $4(x-8)=-1-3(-5x+3)$

$4x-32=-1+15x-9$

$4x-15x=-10+32$

$-11x=22$

$x=\frac{-22}{11}$

$x=-2$

18) $-2(k-6)=2(k-4)$

$-2k+12=2k-8$

$-2k-2k=-8-12$

$-4k=-20$

$k=-20/-4$

$k=5$

19) $-3(m-7)+5(m+1)=6+7m-8m+2$

$-3m+21+5m+5=8-1m$

$2m+26=8-1m$

$3m=8-26$

$3m=-18$

$m=-6$

20) $-3(1-6v)-6(4v+3)=v+3+7v+4$

$-3+18v-24v-18=8v+7$

$-6v-21=8v+7$

$-6v-8v=7+21$

$-14v=28$

$v=-2$

Adv 6/10 - Pg 20

Anagha's Math Level 6 Linear inequations

ID: 2

Rule 1: 8 is greater than 5, but -8 is less than -5.
Remember inequality always flips when you multiply or divide by a negative number.

Rule 2: There are in all 4 different inequalities.
Greater than , Less than , Greater than & equal to , Less than& equal to

Rule 3: Only Greater than/ Less than is an open circle on the graph
Greater than & equal to/ Less than & equal to is a closed circle on the graph.

Solve each inequality and graph its solution.

1) $3(4+a) > -3$

$a > -5$

$3(4+a) > -3$

$12 + 3a > -3$

$-12 \quad -12$

$\frac{3a}{3} > \frac{-15}{3}$

$a > -5$

2) $3 + \frac{x}{4} \le 1$

$x \le -8$

$3 + \frac{x}{4} \le 1$

$-3 \quad -3$

$4 \times \left(\frac{x}{4}\right) \le (-2) \times 4$

$x \le -8$

Solve each inequality and graph its solution.

3) $120 \ge -5(1 - 5x)$

$x \le 5$

$120 \ge -5(1) + 5(5x)$

$120 \ge -5 + 25x$

$+5 \quad +5$

$\frac{125}{25} \ge \frac{25x}{25}$

$5 \ge x \Rightarrow x \le 5$

4) $61 \le 3(2 - 2r) - 5r$

$r \le -5$

$61 \le 3(2) - 3(2r) - 5r$

$61 \le 6 - 6r - 5r$

$61 \le 6 - 11r$ (flip)

$-6 \quad -6$

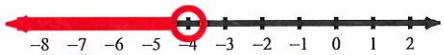
$\frac{55}{-11} \le \frac{-11r}{-11}$

$-5 \ge r$

$r \le -5$

GA/10-Pg (21)

5) $-5(1-5x)+4<-101$



$x<-4$

$-5(1)-5(-5x)+4<-101$

$-5+25x+4<-101$

$25x-1<-101$

$+1 \quad +1$

$\frac{25x}{25} < \frac{-100}{25}$

$x<-4$

6) $51 \le 3(3r+2)$

$r \ge 5$

$51 \le 3(3r)+3(2)$

$51 \le 9r+6$

$-6 \quad -6$

$\frac{45}{9} \le \frac{9r}{9}$

$5 \le r \Rightarrow$ $r \ge 5$

Solve each inequality & graph its solution.

7) $-n-5(-4n-1)>5+2n$

$n>0$

$-n-5(-4n)-5(-1)>5+2n$

$-1n+20n+5>5+2n$

$19n+5>5+2n$

$-5 \quad -5$

$19n>2n$

$-2n \quad -2n$

$\frac{17n}{17} > \frac{0}{17}$

$n>0$

8) $-5(1+4b)>25-5b$

$b<-2$

$-5(1)-5(4b)>25-5b$

$-5-20b>25-5b$

$+5b \quad +5b$

$-5-15b>25$

$+5 \quad +5$

$-15b>30$ ← Flip

$\frac{-15b}{-15} > \frac{30}{-15}$

$b<-2$

GA/10-Pg (22)