Instructions: Answer each question on loose leaf, quad-ruled (graph paper), headed properly and written in lead-graphite. Remember to fold paper along the center, work exercises in order top to bottom, left column then right column. Staple multiple pages

Evaluate: round your solutions to the nearest 10th

1. $2019 \div 58$

2. Evaluate; write solutions as either a mixed number if the decimal repeats, or a terminating decimal.

   a) $16\frac{1}{4} - 5\frac{5}{6}$ b) $19.61 - 4.1\overline{3}$

3. Re-write each expression using the Definition of Subtraction, then add:

   a) $-17 - (-23 - (-28))$

4. Simplify:

   a) $-4x - (13 - 65x) + 71$

5. Solve for the unknown: express solutions as either mixed numbers if the decimal repeats, or terminating decimals.

   a) $19 - \frac{7}{9}g = -18$

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6. Gv1 pg. 247 #2
7. Gv1 pg. 247 #4
8. Gv1 pg. 247 #8
9. Gv1 pg. 239 #4
10. Gv1 pg. 239 #6
11. Gv1 pg. 239 #10 (*hint: write the equations of the line in y=mx+b form first*)
12. Gv1 pg. 227 # 18
13. Gv1 pg. 227 # 20
14. Gv1. pg. 227 #22

15. Write the following equations in slope-intercept form and graph them (*hint: the constant term must be on the right side of the equal sign*).

   a. $x + 2y - 4 = 0$ b) $6x + 5y - 20 = 0$

16.

   BRICKS Jarrod is putting in a sidewalk using two different style bricks. One style brick is 8 inches long and he intends to use x of these bricks. The other style brick is 6 inches long and he intends to use y of these. His sidewalk is to be 288 inches long.

   a. Write a function to represent this situation.

   b. What are the x- and y-intercepts of the function? What do they represent?

17. The money Mr. Ford spends on PopTarts is directly proportional to how many he buys. Last week he spent $3.75 on 3 packs of Pop Tarts.
   a) Write a direct variation equation expressing money spent on PopTarts in terms of the number he purchased
   b) How much money would Mr. Ford spend on 13 packs of PopTarts?
   c) Graph this relationship, Where money is along the vertical axis, and PopTarts along the horizontal axis.
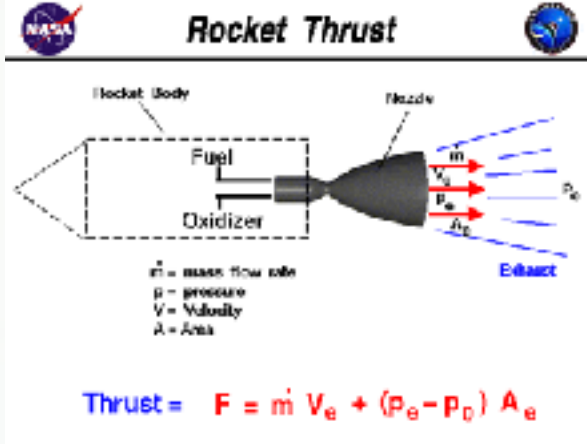
18. Solve: $\frac{1}{8}(32x - 104) - 19x = -61 + 2(29 - 12x)$

19. A square has an area of $961m^2$; what is the square's perimeter?

20. A cube has a volume of $3375in^3$; what is the cube's surface area?

21. Write as exponents positive: $\frac{-17u^3v^{-8}}{-68u^2v^{-7}}$

22. Multiply; write as exponents positive: $5a^8b^{-4}(13a^{-6}b^1)^2$

23. In scientific notation, what is the difference of $4.13 \cdot 10^{13} - 1.961 \cdot 10^{12}$?

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24. Estimate the sum: $\sqrt{17} + \sqrt{170}$

25. From the figure below, solve the Thrust equation for $(p_e - p_o)$.

Rocket Thrust

Rocket Body   Nozzle

Fuel

Oxidizer

$\dot{m}$ = mass flow rate
p = pressure
V = Velocity
A = Area

Exhaust

Thrust = $F = \dot{m}\,V_e + (p_e - p_o)\,A_e$

26. Which is faster? $1024c$ or $2^9 c$, and by how much? Perform and express your solution in Scientific Notation! 'c' is the speed of light = $3 \cdot 10^8 \dfrac{m}{s}$