## TNReady Review Packet

Instructions: Complete each question and show all work. You may use a calculator only on the calculator section. This will be worth an 0.5 grade. I will select 10 RANDOM problems to grade.
$* * * * * * * * * * * * * * *$ What can I do if I don't remember how to do one? ? ? ${ }^{* * * * * * * * * * * * * * * ~}$

- Look in your notes
- Look up old lessons on my website (these questions are in the order we learned them this year)
- Have a friend help you
- Find time to ask Mr. Lischwe
- Whatever your solution, find a way to re-learn it. Do not just guess and move on!

1) Write each letter in the correct box, according to whether it is rational or irrational.
2) Estimate the value of $\sqrt{58}$. Do not use a calculator. Explain your reasoning in words.

| Rational | Irrational |
| :--- | :--- |
|  |  |
|  |  |
|  |  |

A: $\frac{7}{11}$
B: 0.3187
C: $0 . \overline{4}$
D: 0.121212 ...
E: 5.183597 ...
F: $\sqrt{16}$
G: $\sqrt{27}$
H: $\sqrt[3]{27}$

For 3-7, say whether the equations have ONE solution, TWO solutions, or NO solution. Say what the solution/solutions are if there are any.
3) $x^{2}=121$.
4) $x^{2}=-64$.
5) $x^{3}=64$.
6) $x^{3}=-8$.
7) $x^{2}=20$.
8) Explain why this is not a function:

| $\mathbf{x}$ | 1 | 2 | 1 | 2 | 3 |
| :--- | :--- | :--- | :--- | :--- | :--- |
| $\mathbf{y}$ | 4 | 5 | 4 | 6 | 7 |

9) Explain why this IS a function:

| $\mathbf{x}$ | 1 | 2 | 3 | 4 | 5 |
| :--- | :--- | :--- | :--- | :--- | :--- |
| $\mathbf{y}$ | 9 | 9 | 9 | 9 | 9 |

10) Explain why this is not a function:


For 11 - 17, say whether the table or equation is linear or nonlinear and explain why.
11)

| $x$ | $y$ |
| :---: | :---: |
| -2 | -3 |
| -1 | 1 |
| 0 | 5 |
| 1 | 9 |
| 2 | 13 |

12) 

| $x$ | $y$ |
| :---: | :---: |
| 2 | 18 |
| 4 | 14 |
| 6 | 10 |
| 8 | 4 |
| 10 | -2 |

Graph both equations on the same graph.
18) $y=-\frac{1}{4} x+7$
19) $y=3 x-5$


13) | $\mathbf{x}$ | $\mathbf{y}$ |
| :---: | :---: |
| 1 | 30 |
| 2 | 32 |
| 3 | 34 |
| 4 | 36 |
| 6 | 40 |

| $\mathbf{x}$ | $\mathbf{y}$ |
| :---: | :---: |
| 1 | 30 |
| 2 | 32 |
| 3 | 34 |
| 4 | 36 |
| 6 | 40 |

Find the slope between the two points or from the table.
Simplify if possible. $\left(\frac{y_{2}-y_{1}}{x_{2}-x_{1}}\right)$
20) $(-1,6)$ and $(8,4)$
21) $(1,5)$ and $(-3,11)$
22)

| $\mathbf{x}$ | 0 | 3 | 6 | 9 | 12 |
| :--- | :--- | :--- | :--- | :--- | :--- |
| $\mathbf{y}$ | 16 | 10 | 4 | -2 | -8 |

Write an equation in slope-intercept form. ( $\mathbf{y}=\mathbf{m x}+\mathrm{b}$ )
23'

24)

| $\mathbf{x}$ | $\mathbf{y}$ |
| :---: | :---: |
| 2 | 11 |
| 3 | 15 |
| 4 | 19 |
| 5 | 23 |
| 6 | 27 |

25) 


26) Barry started with $\$ 50$ and earned $\$ 20$ per day. ( $x$ is \# of days, $y$ is total money)
27) Carrie started with $\$ 100$. After two days, she had $\$ 130$.

Solve each equation. (2 of them are "weird" ones - no solution or infinite solutions)
28) $2(5 x+14)-5 x=2 x+10$
29) $2 x+4=2 x+10$
30) $4 x+2=10 x+2$

Solve each system of equations:
32) (Substitution) $\left\{\begin{array}{c}y=2 x+3 \\ 4 x+2 y=30\end{array}\right.$
33) (Elimination) $\left\{\begin{array}{c}4 x-3 y=13 \\ -2 x+5 y=11\end{array}\right.$
34) (Graphing) $\left\{\begin{array}{l}y=x-9 \\ y=-\frac{1}{2} x\end{array}\right.$


Simplify. Do not leave negative exponents in your answer.
35) $\left(7 a b^{6}\right)^{2}$
36) $\frac{3 x^{5} \cdot 8 x^{4}}{2 x^{3}}$
37) $\frac{n}{n^{4}}$
38) $m^{3} \cdot m^{-3}$
39) Find the value of $x$ :

40) Assume the two lines are parallel.

a) If $m \angle 2=55^{\circ}$, what is $m \angle 5$ ?
b) If $m \angle 6=109^{\circ}$, what is $m \angle 4$ ?
c) If $m \angle 5=68^{\circ}$, what is $m \angle 1$ ?
d) What type of special angle pair are $\angle 5$ and $\angle 7$ ?
e) What type of special angle pair are $\angle 1$ and $\angle 6$ ?
41) Start with $P(-6,3)$
$1(-4,3) \mathrm{G}(-6,-1)$

- Reflect across the x-axis.
- Reflect across the $y$-axis.
- Reflect across the line $\mathrm{x}=7$.


42) Start with $\mathbf{L}(\mathbf{2}, \mathbf{1})$
$1(3,2) O(5,2) N(6,1)$

- Rotate $270^{\circ}$ counterclockwise.
- Translate by ( $\mathrm{x}-2$,

$$
y+2)
$$


43) Start with $F(-6,3)$ $O(2,3) X(5,-4)$

- Dilate using a scale factor of 1.5.


44) 

a) Find the scale factor of the dilation.

45) Find the perimeter of the triangle.

46) Find the area of the triangle.
(Both "halves" of the base are congruent)

49) Write each formula:
a) Area of a circle
b) Volume of a cylinder
c) Volume of a cone
d) Volume of a sphere

