Answer each non-graph question neatly on the line provided.

Name: _

1. (4 points) Evaluate $\sin(285^{\circ})$.

l. _____

2. (4 points) Find all solutions t to $2t^2 = 64$.

2. _____

3. (4 points) Find $\cos(2\theta)$ given that $\tan\theta = -\frac{4}{3}$

3

4. (4 points) Find all solutions θ to $2 \sec^2 \theta - 4 = 0$ for $0 \le \theta \le 2\pi$.

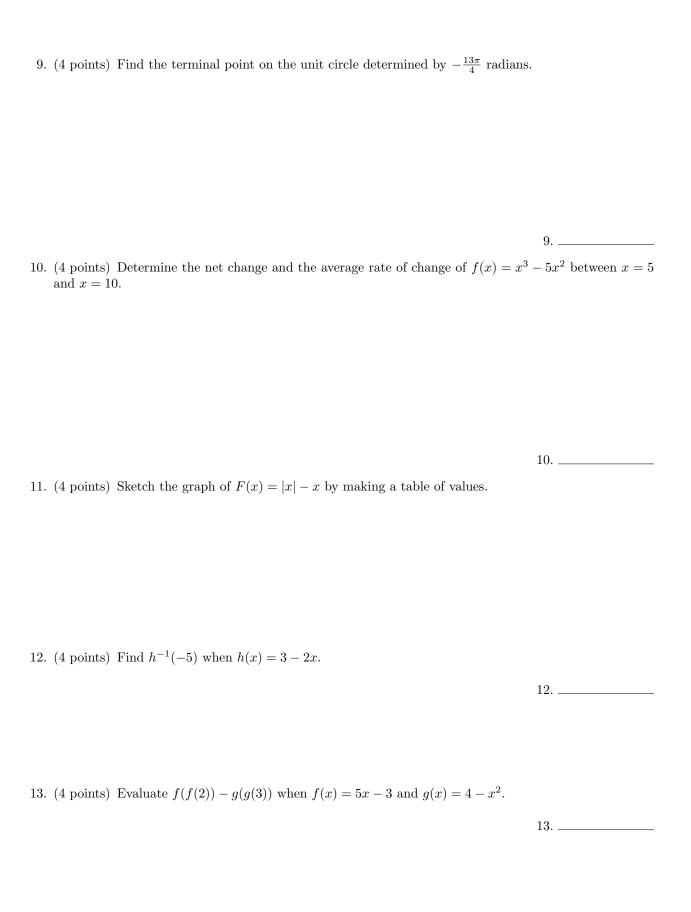
4

5.	(4 points)	Evaluate \log_2	$\left(\frac{1}{64}\right)$
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6. (4 points) Solve
$$\log_9(x-5) = 1 - \log_9(x+3)$$
 for x .

7. (4 points) Evaluate
$$\tan\left(\sin^{-1}\left(\frac{-1}{2}\right)\right)$$
.

8. (4 points) Sketch the graph of
$$f(x) = 1 - 4x - x^2$$
.



14. (4 points) Evaluate $\left(\frac{49}{36}\right)^{-\frac{3}{2}}$.

14. _____

- 15. (4 points) Simplify the difference quotient $\frac{f(1+h)-f(1)}{h}$ when $f(x)=\frac{2}{x+5}$.
- 15. _____

- 16. (4 points) Find the center and radius of the circle given by the equation $x^2 + y^2 \frac{1}{4}x + \frac{1}{4}y = \frac{1}{32}$.
 - 16. _____

- 17. (4 points) Find an equation of the line passing through the points (5, -3) and (-4, 8).
 - 17. _____

18. (4 points) Solve the inequality $\frac{x}{x+2} > 5$. Express your answer in interval notation.

18. _____

19. (4 points) Perform the division $\frac{x^2-x-30}{x^2+5x} \div \frac{x^2-5x-6}{x^3+x^2}$ and simplify completely.

19. _____

20. (4 points) Find all solutions x to $\sqrt{9-x}+1=x-6$.

20. _____

21. (4 points) Sketch the graph $y = 2 + \left(\frac{1}{5}\right)^{x+1}$. Label all intercepts and asymptotes on your sketch. State the domain and range using interval notation.

