

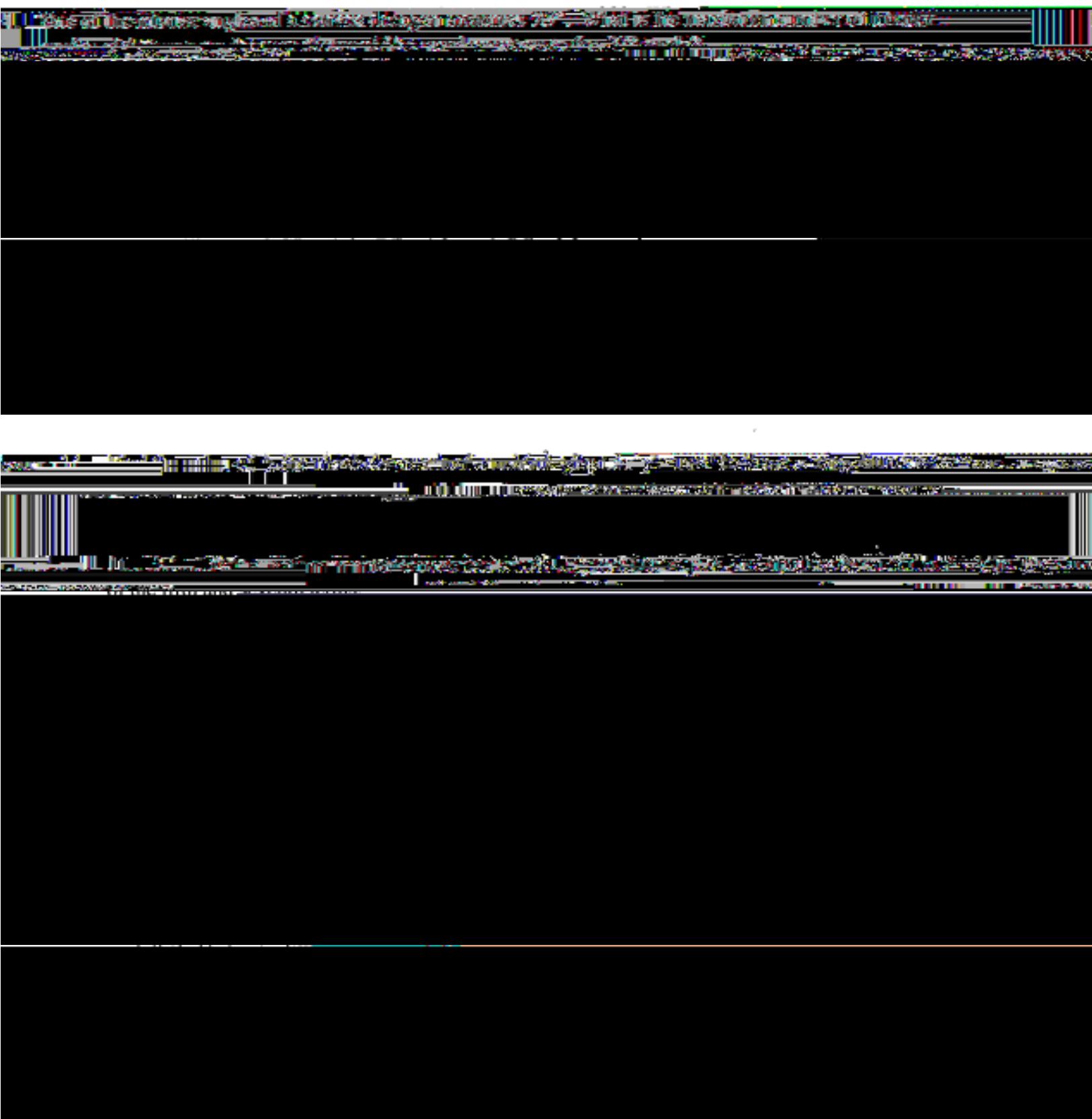
measurement are required. Each problem has the same point-value.

1. Given $f(x) = 2x^5 - 5$, find the value of $f(f(f(x)))$.

$$\frac{2x^5 - 5}{2x^5 - 5} \text{ is } \frac{2x^5 - 5}{2x^5 - 5}$$

Find the value of x . Express your answer as an exact decimal.

The value of x . Express your answer as an exact decimal.



Name: _____

Team Code: _____

2015 Lake OPR Mathematical Challenge

What is the sum of the first 100 terms of the sequence $a_n = \frac{1}{n(n+1)}$?

11. $\frac{1}{2} + \frac{1}{3} + \frac{1}{4} + \dots + \frac{1}{100}$

1. $\frac{1}{2} + \frac{1}{3} + \frac{1}{4} + \dots + \frac{1}{100}$

12. $\frac{1}{2} + \frac{1}{3} + \frac{1}{4} + \dots + \frac{1}{100}$

2. $\frac{1}{2} + \frac{1}{3} + \frac{1}{4} + \dots + \frac{1}{100}$

3. $\frac{1}{2} + \frac{1}{3} + \frac{1}{4} + \dots + \frac{1}{100}$

13. $\frac{1}{2} + \frac{1}{3} + \frac{1}{4} + \dots + \frac{1}{100}$

4. $\frac{1}{2} + \frac{1}{3} + \frac{1}{4} + \dots + \frac{1}{100}$

14. $\frac{1}{2} + \frac{1}{3} + \frac{1}{4} + \dots + \frac{1}{100}$

5. $\frac{1}{2} + \frac{1}{3} + \frac{1}{4} + \dots + \frac{1}{100}$

15. $\frac{1}{2} + \frac{1}{3} + \frac{1}{4} + \dots + \frac{1}{100}$

16. $\frac{1}{2} + \frac{1}{3} + \frac{1}{4} + \dots + \frac{1}{100}$

16. $\frac{1}{2} + \frac{1}{3} + \frac{1}{4} + \dots + \frac{1}{100}$

7. $\frac{1}{2} + \frac{1}{3} + \frac{1}{4} + \dots + \frac{1}{100}$

17. $\frac{1}{2} + \frac{1}{3} + \frac{1}{4} + \dots + \frac{1}{100}$

8. $\frac{1}{2} + \frac{1}{3} + \frac{1}{4} + \dots + \frac{1}{100}$

18. $\frac{1}{2} + \frac{1}{3} + \frac{1}{4} + \dots + \frac{1}{100}$

Radius of Earth = 6370 km
Radius of Moon = 1740 km

1. _____

22.6
Connected in
1.5

10. _____ 12. _____ 13. **5125** exact form.

1
Shuttle has
16. _____
14.00

4
- 16 +
1

Must be in this

2.55

$\frac{1}{5}$

Must be this

10. _____ 20. _____

1
Must be this
and equals $\frac{1}{5}$