Math 8 – Quarter 1 - Week 6

1. Santiago is making a model airplane. He is using the scale $\frac{1}{4} in. = 2\ feet$. If the actual length of the plane's wing is 58 feet; how long should the wing be in his model?

2. Alyssa is making cakes. In 6 cakes she uses $10\frac{1}{2} cups$ of sugar. How much sugar is in one cake?

3. Solve for x.

$$-9x - 13 = -103$$

4. Simplify

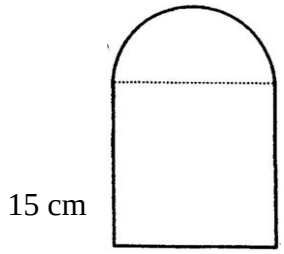
$$-(6a - 2b) - 8(b + a)$$

5. Arjun earned the following amounts the last three weeks. How much does Arjun earn per hour?

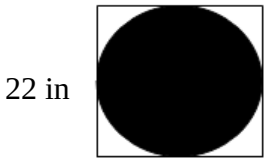
Hours Worked (h)	Amount Earned (E)
14	$192.50
18	$247.50
33	$453.75

6. Diego is painting lines on a basketball court. What is the area inside the lines?

Round your answer to the nearest hundredth.



7. What is the area of the non-shaded area to the nearest hundredth?



8. SuperSaver grocery store advertises a special on 2-liter bottles of soft drinks. The first bottle purchased is $1.25 and each bottle after that is $0.75. Write an expression that can be used to find the total cost. Find the total cost if you purchase 8 bottles.

9. A cylinder is cut perpendicular to the base. What is the shape of the cross section?

10. When Valerie planted a tree in her yard it was 12 inches tall. It grew at a rate of 1.5 inches per month. The tree is now 37.5 inches tall.

How many months has it been since Valerie planted the tree?

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11. Simplify $2\sqrt{49} - \sqrt{146 - 25} + 9$	12. Joseph is measuring the length of his house. He finds it is $25.\overline{4}$ feet long. Write this value as an improper fraction.
13. Circle the rational numbers. $-\frac{3}{11}$ $\sqrt{36}$ $\frac{-2\pi}{5}$ $3\sqrt{200 - 4}$	14. Simplify $\frac{4^{-1}}{4^{-4}}$
15. Benjamin is moving to college. He has six cubic crates to pack his things. Each crate has a side length of 3 feet. What's the total volume of all six crates?	16. One side of a pentagon measures $\sqrt{40}\ inches$. What is the measure of this side as a decimal to the nearest hundredth?
17. Simplify $(a^{-4}bc^3)^0 \cdot a^3b$	18. Victoria is helping her teacher decorate a square bulletin board. The area of the board is 144 square inches. How many inches of border does Victoria need to go around the bulletin board?
19. Simplify $\frac{2}{5} \cdot 0.\overline{1}$	20. Circle the natural numbers. $\frac{18}{3}$ $4\sqrt{9}$ -6 0