

1. A certain bathtub holds 60 gallons of water. If a faucet fills the tub at 4 gallons per minute, how long will it take to fill the tub? Student Code: \_\_\_\_\_



2. Simplify:  $\frac{15x^3y^7}{12xy^2}$  Student Code: \_\_\_\_\_



3. What is  $\frac{5}{13} + \frac{7}{10}$ ?

Student Code: \_\_\_\_\_



4. The floor of a rectangular room has a perimeter of 46 feet. If one side of the room is 12 feet long, what is the area of the floor? Student Code: \_\_\_\_\_



5. Joseph has twice as many white socks as he has blue socks. When he does the laundry, three blue socks disappear. Now he has five white socks for every blue sock. How many socks did he start out with?

Student Code: \_\_\_\_\_



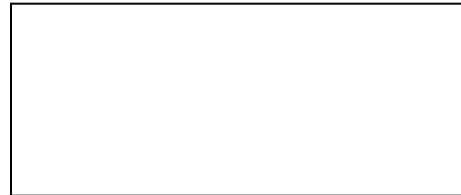
6. Find  $w$ :  $\frac{1}{2}(7w + 5) = -36$

Student Code: \_\_\_\_\_



7. Every day in the spring, the sun rises 3.5 minutes earlier than the previous day. If the sun rose at 7:05 on April 1<sup>st</sup>, what time will the sun rise on April 13<sup>th</sup>?

Student Code: \_\_\_\_\_



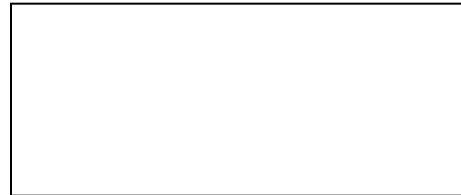
8. Mel draws four cards at the same time from a standard 52 card deck. What is the probability that all of the cards will be red?

Student Code: \_\_\_\_\_



9. What is  $\frac{-(3-4)^2 + 10 \div 2}{2}$ ?

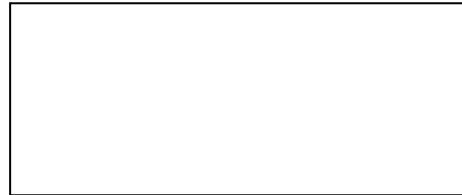
Student Code: \_\_\_\_\_



10. A cylindrical can is 5 inches tall. Its base has a diameter of 2 inches. What is the volume of the cylinder? (You may leave  $\pi$  in your answer.) Student Code: \_\_\_\_\_



Tie Breaker 1: How many numbers are there from one to 100 with a 4 or a 5 as one of the digits? Student Code: \_\_\_\_\_

A large, empty rectangular box with a thin black border, intended for the student to write their answer to Tie Breaker 1.

Tie Breaker 2: What is the prime factorization of 840? Student Code: \_\_\_\_\_

A large, empty rectangular box with a thin black border, intended for the student to write their answer to Tie Breaker 2.

Individual question solutions:

1. 15 mins
2.  $\frac{5x^2y^5}{4}$
3.  $\frac{141}{130}$
4. 132 ft<sup>2</sup>
5. 15 socks
6.  $w = -11$
7. 6:23
8. 1/16
9. 2
10.  $5\pi$  in<sup>3</sup>

Tie breaker 1: 36

Tie breaker 2:  $7*5*3*2*2*2$