Math 01, Practice Final Exam. 1 hour 50 minutes

This exam shows you the format of the final. The questions can come from any of the material we have covered.

It is very important that you show clearly all your working out and reasoning. Simplify your answer when possible and put a box around the answer. You may not use a calculator or phone.

Questions from Chapter 1.

Q1. (1 pt) Find: $4 + 3(15 - 4 \cdot 2)$
Q2. (1 pt) Find: $(\sqrt{65 - 1} - 12) \div 2$

Questions from Chapter 2.

Q3. (1 pt) Find: $4 - 5 - 1 + 9 - 2 - 10$

Questions from Chapter 3.

Q4. (1 pt) Find the prime factorization of 100
Q5. (1 pt) Find the LCM of $\{3, 6, 8\}$
Q6. (1 pt) Find the GCF of $\{24, 30\}$
Q7. (4 pts) Find: $2\frac{1}{5} + 3\frac{2}{7}$
Q8. (4 pts) Calculate: $2\frac{1}{5} \times 3\frac{2}{7}$
Q9. (2 pts) Reduce to lowest terms:
$$\frac{42}{98}$$
Q10. (4 pts) Find: $\frac{1}{5} - 3$
Q11. (4 pts) Calculate: $2\frac{1}{5} \div \left(-\frac{2}{7}\right)$

Questions from Chapter 4.

Q12. (2 pts) Write in scientific notation: 0.0000671
Q13. (2 pts) Write in scientific notation: 893000
Q14. (2 pts) Compute: $38 - 4.123$
Q15. (2 pts) Compute: $4.134 \div 1.3$
Q16. (2 pts) Compute: 4.134×1.3
Q17. (2 pts) Convert $3/8$ into a decimal and a percent.
Q18. (2 pts) Convert 25% into a decimal and a fraction.

Questions from Chapter 5.

Q19. (3 pts) 17 inches is what percent of 20 inches?
Q20. (3 pts) 19 is 25% of what number?
Q21. (5 pts) If 8 pizzas cost $\$60$ how many pizzas can you get for $\$105$?

Questions from Chapter 6.

Q22. (3 pts) If $a = 2$ and $b = -3$ evaluate $a^2 - a + ab - b^2$
Q23. (3 pts) If $a = -1$ and $b = 0$ evaluate $(a + b)^2 + ab - b^2$
Q24. (5 pts) If $x = -5$ evaluate $2x^2 - 4x + 7$
Q25. (5 pts) Convert the Fahrenheit temperature $F = 59$ into Celsius with the formula
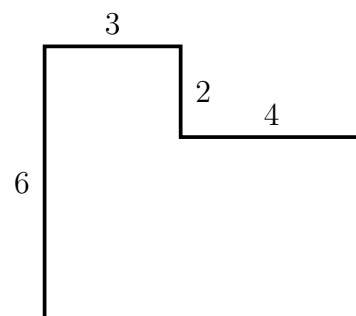
$$C = \frac{5}{9}(F - 32).$$

Q26. (5 pts) Solve for x: $3x - 4 = 14$
Q27. (5 pts) Solve for x: $5x + 4 = -3x - 8$

Part II. Do any 5 of these 7 questions.

Q28. (5 pts) [Chapter 1] The hypotenuse of a right triangle is 10 inches long. If one of the legs is 8 inches, find the length of the other leg.


Q29. (5 pts) [Chapter 1] Find the perimeter and area of this shape.

Q30. (5 pts) [Chapter 4] Convert this into scientific notation: $(3 \times 10^4)(4 \times 10^5)$
Q31. (5 pts) [Chapter 5] The current value of a car is \$22000 which is 55% of the original price. What was the original price?
Q32. (5 pts) [Chapter 5] A car goes 650 miles on 20 gallons of gas. How many gallons are needed to go 420 miles? Round your answer to the nearest gallon.
Q33. (5 pts) [Chapter 5] For these similar triangles, find the length of the missing side.
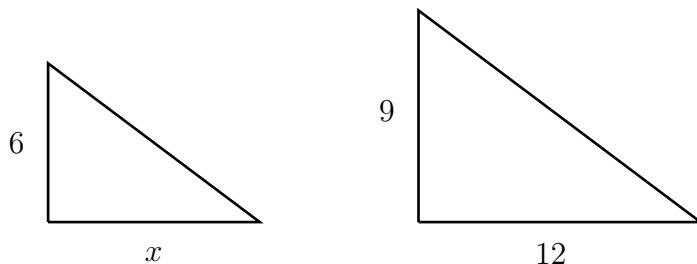
Q34. (5 pts) [Chapter 6] Solve for x: $2x - 6 = -2(x - 3)$