

Students should be able to solve **at least 8 out of 10 problems within two attempts** on the following page to demonstrate readiness for the MC20 level. This exam evaluates **familiarity** in the following key areas:

(A) **Numbers**

- Arithmetic operations involving integers, decimals, fractions, and percents
- Converting between integers, decimals, fractions, and percents
- Solving arithmetic problems with these using the order of operations

(B) **Ratios and Proportions**

- Solving basic word problems using ratios and proportions

(C) **Variables**

- Evaluating and simplifying expressions with variables
- Translating word problems into single-variable linear equations
- Solving single-variable linear equations

1. Simplify the expression $(-3) + 8 \div 2$.
2. Simplify the expression $\frac{2}{3} + \frac{1}{4} - \frac{1}{6}$. Express your answer as a common fraction in simplest form.
3. A marathon is 26.2 miles long. Sally ran one fifth of the marathon. How many miles did she run? Express your answer as a decimal.
4. What percent of 80 is 32?
5. Order the numbers 70%, $\frac{2}{3}$, and 0.55 in increasing order.
 - (A) $0.55 < 70\% < \frac{2}{3}$
 - (B) $70\% < 0.55 < \frac{2}{3}$
 - (C) $0.55 < \frac{2}{3} < 70\%$
 - (D) $\frac{2}{3} < 0.55 < 70\%$
6. Sarah ate $\frac{1}{4}$ of a large pizza for lunch and then $\frac{1}{2}$ of the remaining pizza for dinner. What fraction of the pizza is left after dinner?
7. Maria needs to buy balloons for a school event. Five balloons cost \$3. How many dollars will it cost her to buy 30 balloons?
8. What is the value of $3x + 2y - 7$ when $x = 5$ and $y = 2$?
9. Solve $3x + 5 = 17$ for x . (Don't type " $x = \dots$ "; only type the value of x)
10. Liam is saving money to buy a \$415 bicycle. He has already saved \$75, and plans to save \$20 each week. Which equation can be used to find the number of weeks w it will take for Liam to afford the bicycle?
 - (A) $(75 + 20)w = 415$
 - (B) $75w + 20 = 415$
 - (C) $20(75 + w) = 415$
 - (D) $75 + 20w = 415$