

boxes

Score

8 / 10

No calculators

provided on this page.

Scoring: A question is either completely correct (1 point) or wrong (0 points).

If you score under 4 on this test, you should consider dropping the class.

If you score 4-7, seek help **NOW**: maybe enroll in CLAS?

If you score 8-10, congratulations! You are ready for Math 34A.

1. Solve for x in the equation

$$3(x + 4) = k(x - 2).$$

$$x = \frac{kx - 2k - 4}{3}$$

2. Multiply out and simplify. Check your answer.

$$(1 + x)(1 - 2x + x^2)$$

$$x^3 - x^2 - x + 1$$

3. Put over a common denominator and simplify.

$$\frac{2x + 3}{3 \cdot 5} + \frac{3x + 2}{5 \cdot 3}$$

$$\frac{x + 9}{15}$$

4. What is 25% of $\frac{4}{3}$ of 12?

4

5. Calculate

$$\frac{20}{\left(16 - \left(\frac{1}{3} - \frac{1}{4}\right)^{-1}\right)^2}$$

$$\frac{5}{4}$$

6. A car travels at 50 mph for 3 hours and at 60 mph for the rest of the journey. The length of the journey is 270 miles. How many hours did the entire journey take?

$$270 - 150 = 120 \text{ miles}$$

5

hours

7. Solve for x and y

$$3x - 5y = -2$$

$$x + y = 10$$

$$x = 10 - y$$

$$30 - 5y - 5y = -2 \Rightarrow -8y = -32 \Rightarrow y = 4$$

$$x = 6$$

$$y = 4$$

8. An entrepreneur bought 7 tons of apples for \$100 per ton. She sold half the apples at a price of \$200 per ton. She sold another ton for \$150. The remainder she sold at \$100 per ton. How much profit did she make?

$$200 \times 3.5 = 700$$

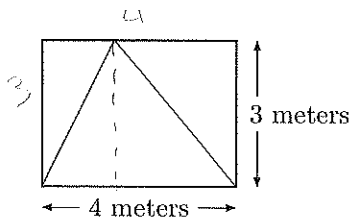
$$- 3 \times 100 = -300$$

$$+ 150 + 100 = 250$$

$$150 + 250 = 400$$

$$\$ 400$$

9. What is the area of the shaded region?



square meters

10. If I earn \$200,000 and pay \$80,000 in tax, what percentage of what I earn do I keep?

$$\frac{200,000 - 80,000}{200,000}$$

$$\frac{120,000}{200,000}$$

$$= 0.6$$

60%

%