

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

$$3x + 12 = kx - 2k$$

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

$$x = \frac{3}{2}$$

2. Multiply out and simplify. Check your answer.

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

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

3. Put over a common denominator and simplify.

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

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

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

$$\frac{12}{1} \cdot \frac{4}{3} = \frac{48}{3}$$

$$\frac{48}{3} \cdot \frac{1}{4} = \frac{48}{12}$$

$$4$$

5. Calculate

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

$$\frac{20}{112}$$

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?

$$150$$

$$5 \text{ hours}$$

7. Solve for x and y

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

$$x + y = 10$$

$$x = -24$$

$$y = -14$$

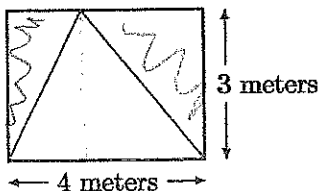
8. An entrepreneur bought 7 tons of apples for \$100 per ton. She sold half the apples at a price of \$200 per ton. She sold another ton for \$150. The remainder she sold at \$100 per ton. How much profit did she make?

$$\frac{1}{2} \cdot 700$$

$$2 \cdot 5 = 250$$

$$\$ 1100$$

9. What is the area of the shaded region?



$$6 \text{ square meters}$$

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

$$\frac{80}{200}$$

$$\frac{2}{5} = \frac{40}{100}$$

$$60 \%$$