Math 34A Winter 2021
Entrance Quiz

No calculators

Put your final answers in the

boxes

provided on this page.

Score   / 10

Scoring: A question is eigher 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.

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1. Solve for x in the equation

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

$x =$

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2. Multiply out and simplify. Check your answer.

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

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3. Put over a common denominator and simplify.

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

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4. What is 25% of 4/3 of 12?

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5. Calculate

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

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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?

hours

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7. Solve for x and y

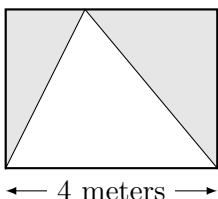$$3x - 5y = -2$$
$$x + y = 10$$

$x =$

$y =$

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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?

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9. What is the area of the shaded region?

3 meters

4 meters

square meters

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

%

Entrance Quiz Answers/Solutions

1. $x = \dfrac{12 + 2k}{k - 3}$

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

3. $\dfrac{x + 9}{15}$

4. 4

5. $\dfrac{5}{4} = 1.25$

6. 5 hours

7. $(x, y) = (6, 4)$

8. $3.5 \cdot (\$200 - \$100) + 1 \cdot (\$150 - \$100) + 2.5 \cdot (\$100 - \$100) = \$400$ profit

9. 6 square meters

10. $\dfrac{\$200,000 - \$80,000}{\$200,000} = \dfrac{120,000}{200,000} = 60\%$