

**Kumon Math Challenge – Sample Questions
Grade 7**

Solve for x .

1. $5x - 10 = -6$

A. $x = -\frac{16}{5}$

B. $x = \frac{4}{5}$

C. $x = \frac{16}{5}$

D. $x = \frac{5}{4}$

2. Factor completely:

$$4(x + y)^2 - 6(x + y)$$

A. $2[2(x + y)^2] - 3(x + y)$

B. $(x + y)(4x + 4y - 6)$

C. $4x^2 + 16xy + y^2 - 6x - 6y$

D. $2(x + y)(2x + 2y - 3)$

4. $6x - 9 > 8x + 5$
 $2x - 15 > 3x - 11$

A. $x > -7$

B. $x < -4$

C. $x < -7$

D. $x \leq -7$

5. A music store purchases used CD's at 3 for \$18.00, then turns around and sells them at \$10.00 each in the store. How many CD's does the music store have to sell to make a profit of \$1000?

A. 200 CD's

B. 350 CD's

C. 250 CD's

D. 150 CD's

Solve for x :

3. $\left(\frac{1}{2} - x\right) \times 2 + 8 \times \left(\frac{1}{3} + \frac{1}{4}\right) \div 7 = 1$

A. $x = \frac{1}{3}$

B. $x = \frac{1}{6}$

C. $x = \frac{1}{5}$

D. $x = \frac{3}{4}$

6. $\left(\frac{9}{4}\right)^{\frac{1}{2}} \times 216^{\frac{2}{3}} =$

A. 44

B. 65

C. 54

D. 32

**Kumon Math Challenge – Sample Questions
Grade 7**

John has 8 shirts (3 blue, 3 white, and 2 red), 5 pairs of pants (2 blue and 3 black), and 6 ties (2 yellow, 2 blue, and 2 red).

7. What is the probability of picking an all blue outfit?

- A. $\frac{7}{240}$
- B. $\frac{12}{19}$
- C. $\frac{1}{20}$
- D. $\frac{7}{19}$

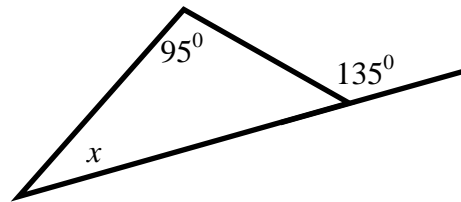
Continue the pattern.

8. 7 14 28 56 ...

- A. 84, 112
- B. 112, 224
- C. 63, 70
- D. 84, 140

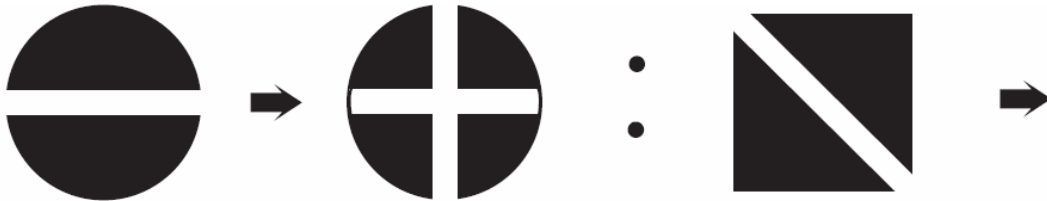
Find the unknown angle in the figure below.

9.



- A. $x = 45^\circ$
- B. $x = 50^\circ$
- C. $x = 40^\circ$
- D. $x = 30^\circ$

10. The first two shapes have a pattern. Use that pattern to find the next shape.



- A.
- B.
- C.
- D.

**Kumon Math Challenge – Sample Questions
Grade 7**

ANSWER KEY

1. B
2. D
3. A
4. C
5. C
6. C
7. C
8. B
9. C
10. B