

MATH 9 - CHAPTER 8 & 9 - PRETEST

parent/guardian signature _____

Multiple Choice - PART 1 - NON-CALCULATOR - 10 MINUTES

Circle the choice that best completes the statement or answers the question.

1. What is the value of m if $\frac{3m}{5} = 3.5$?

- a. $m = 2.1$
- b. $m = 5.83$
- c. $m = 7.75$
- d. $m = 9.5$

$$\begin{array}{r} 3.5 \\ \times 5 \\ \hline 17.5 \end{array}$$

$$\begin{array}{r} 5.8 \\ 3 \overline{)17.5} \\ \underline{15} \\ 25 \\ \underline{24} \\ 1 \end{array}$$

2. Solve the following: $5s + 4 = 22$.

- a. $s = 2.4$
- b. $s = 3.6$
- c. $s = 18$
- d. $s = 22$

$$\begin{array}{r} -4 \quad -4 \\ 5s + 4 = 22 \\ \underline{-4 \quad -4} \\ 5s = 18 \\ \underline{A = 18} \\ s \end{array}$$

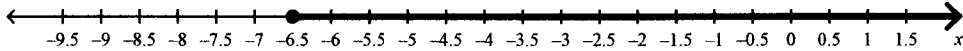
$$\begin{array}{r} 3 \\ 5 \overline{)18} \\ \underline{15} \\ 3 \end{array}$$

3. The statement "The boy appears to be at least 10 years old" can be represented by the inequality

- a. $a > 10$
- b. $a \geq 10$
- c. $a < 10$
- d. $a \leq 10$

the smallest

4. Choose the statement that best represents what is on the number line below.



- a. A number is greater than -6.5 .
- b. A number is greater than or equal to -6.5 .
- c. A number is less than -6.5 .
- d. A number is less than or equal to -6.5 .

5. Solve $y + 7 > 12$. -7

- a. $y > 5$
- b. $y > 19$
- c. $y < 5$
- d. $y < 19$

6. What is the solution to the inequality $8 - 3x < 5$?

- a. $x > 1$
- b. $x < 1$
- c. $x < -1$
- d. $x > -1$

$$\begin{array}{r} -8 \quad -8 \\ 8 - 3x < 5 \\ \underline{-8 \quad -8} \\ -3x < -3 \\ \underline{-3 \quad -3} \\ x > 1 \end{array}$$

Multiple Choice - PART 2 - CALCULATOR may be used after 10 minutes

7. A rectangle has a width of $r+3$ cm and a length of $2r+9$ cm. The perimeter of the rectangle is

- a. 6 cm
- b. 12 cm
- c. $r+6$ cm

$$2(r+3) + 2(2r+9)$$

$$2r+6 + 4r+18$$

$$6r+24$$

d. $6(r+4)$ cm = $6r+24$

8. Solve $0.8p = 3.6$.

- a. $p = 0.22$
- b. $p = 0.4$
- c. $p = 2.88$
- d. $p = 4.5$

9. Solve $\frac{10.85}{a} = 3.5$.

- a. $a = 0.31$
- b. $a = 0.323$
- c. $a = 3.1$
- d. $a = 37.975$

$$10.85 \div 3.5$$

10. Solve the following: $\frac{3.2a}{4} + 6.2 = 7.32$.

- a. $a = 0.8$
- b. $a = 1.12$
- c. $a = 1.4$
- d. $a = 1.92$

$$-6.2$$

$$\times 4$$

$$\div 3.2$$

11. Solve the following: $3(2x+3) = 12$.

- a. $x = 0.5$
- b. $x = 1.5$
- c. $x = 2.0$
- d. $x = 3.5$

$$6x + 9 = 12 - 9$$

$$6x = 3$$

$$x = \frac{3}{6} = \frac{1}{2}$$

12. Solve $5\left(\frac{4z}{3} + 3\right) = 11 \div 5$

- a. $z = -0.5$
- b. $z = -0.6$
- c. $z = -1.5$
- d. $z = -1.6$

$$\frac{4z}{3} + 3 = 2.2 - 3$$

$$\frac{4z}{3} = -0.8 \times 3 \div 4$$

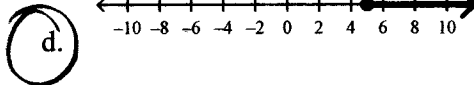
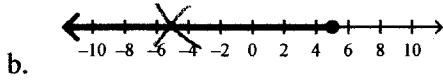
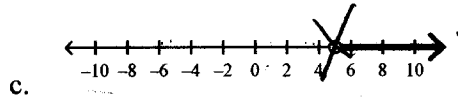
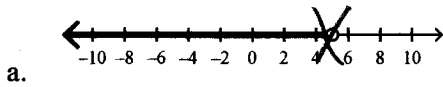
13. What is $5.1d + 2.7 = 3.9d - 2.7$?

- a. $d = 4.5$
- b. $d = 0.675$
- c. $d = 2.25$
- d. $d = -4.5$

$$1.2d = -5.4$$

$$d =$$

14. Which number line can represent the statement, "Only children at least 5 years old may swim in the wave pool"?



15. A stockbroker must sell metal-company stock when the price is between \$2.50 and \$3.00 per share. Which inequality represents this situation?

- a. $2.50 \geq p \geq 3.00$ b. $2.50 > p > 3.00$ c. $2.50 \leq p \leq 3.00$ d. $2.50 < p < 3.00$

16. Solve $7 < \frac{1}{2}x$.

7×2

- a. $x < 3.5$ b. $x < 14$ c. $x > 14$ d. $x > 3.5$

17. Determine the solution to $-3\frac{1}{3}x < -16\frac{1}{2}$.

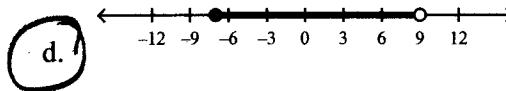
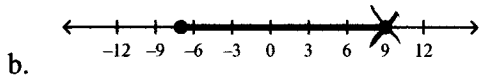
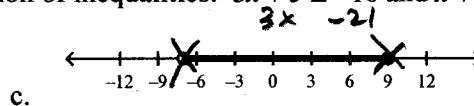
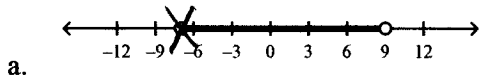
- a. $x > 4\frac{19}{20}$ c. $x > 55$
 b. $x < 4\frac{19}{20}$ d. $x < 55$

18. The cost of a large cheese pizza is \$12.25, plus \$1.55 for each extra topping. Ellen has \$20 to spend on pizza. How many extra toppings can she afford?

$12.25 + 1.55x \leq 20$
 -12.25
 $\div 1.55$

- a. 5 b. 7 c. 8 d. 13

19. What is the solution to the following combination of inequalities: $3x + 5 \geq -16$ and $x + 5 < 14$



Show your work.

20. Frank did the following calculations to solve. Prove that this answer is not correct.

$3(2g + 2.5) = 15.9$

$6g + 7.5 = 15.9$

$6g = 23.4$

$g = 3.9$

① subst $g = 3.9$

LS. $3(2(3.9) + 2.5)$

$3(7.8 + 2.5)$

$3(10.3)$

$30.9 \neq RS$

OR ②

$6g + 7.5 = 15.9$

$6g = 8.4$

$g = 1.4$

21. Solve and show your work.

$$\begin{aligned} 3(2.1b - 1.2) &= 4(0.7b + 0.85) \\ 6.3b - 3.6 &= 2.8b + 3.4 \\ 3.5b &= 7 \\ b &= 2 \end{aligned}$$

22. a) Create an inequality that requires you to reverse the inequality symbol.

many possible

$$-3x < 9$$

÷ both sides by -3
change ineq.

b) Solve your problem.

$$x > -3$$

Problem

23. In a 48-member high school band, $\frac{5}{8}$ of the students are in the strings section. The strings section held a fundraising sale of coupon books. They sold 270 books.

a) Determine the average number of books sold by each student in the strings section.

$$\begin{aligned} 48 \times \frac{5}{8} &\Rightarrow 30b = 270 \\ b &= 9 \text{ average} \end{aligned}$$

b) How many books would be sold by the entire band, if each student was able to sell the average number of books sold by the students in the strings section?

$$48 \times 9 = 432 \text{ books}$$

24. Julia must keep her cell-phone bill below \$65 per month. The basic charge is \$25 and it costs her \$3 per min for long-distance phone calls.

a) What inequality can be used to determine how many long-distance minutes Julia can afford?

$$25 + 3m < 65$$

b) How many minutes of long-distance phone calls can Julia make?

$$3m < 65 - 25$$

$$3m < 40$$

$$m < 13.\bar{3}$$