

# St James Math Packet

Students entering 8<sup>th</sup> grade (Blue Group)

Summer Skills Sharpener

In an effort to spend less time reviewing in the beginning of the school year, this Math packet must be completed during summer vacation. It will be collected during the first week of school, and will be counted as one test grade for the First Quarter.



Name: \_\_\_\_\_

Score: \_\_\_\_\_

## Translating Phrases - Linear Expression

ES1

Translate each verbal phrase into an algebraic expression:

1) The sum of  $x$  and 2 \_\_\_\_\_

2)  $t$  divided by 8 \_\_\_\_\_

3) The product of 9 and  $m$  \_\_\_\_\_

4) Subtract 5 from  $c$  \_\_\_\_\_

5) Combine  $y$  and 7 \_\_\_\_\_

6) Three-sevenths of  $h$  \_\_\_\_\_

7) 3 multiplied by  $d$  \_\_\_\_\_

8) One-quarter added to  $n$  \_\_\_\_\_

9)  $b$  decreased by 10 \_\_\_\_\_

10) One-half of  $k$  \_\_\_\_\_

Name: \_\_\_\_\_

Score: \_\_\_\_\_

### Evaluate the Expressions - Single Variable

Easy: S1

Evaluate each algebraic expression for the given value of the variable.

1)  $16 - x$  at  $x = 5$

2)  $3n$  at  $n = 11$

3)  $p^3$  at  $p = 2$

4)  $r + 4$  at  $r = 13$

5)  $\frac{m}{2} + 1$  at  $m = 6$

6)  $c - 9$  at  $c = 16$

7)  $b^2$  at  $b = 4$

8)  $\frac{y}{5}$  at  $y = 15$

9)  $21 - z$  at  $z = 10$

10)  $\frac{q}{3} + 4$  at  $q = 3$

Name: \_\_\_\_\_

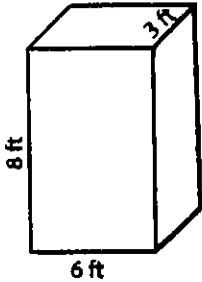
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**Volume - Rectangular Prism**

ES1

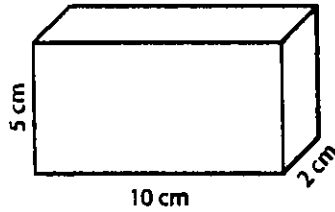
Find the volume of each rectangular prism.

1)



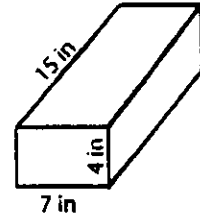
Volume = \_\_\_\_\_

2)



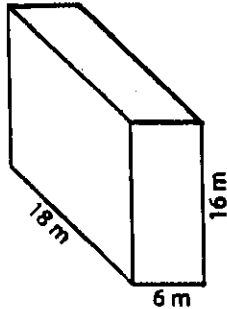
Volume = \_\_\_\_\_

3)



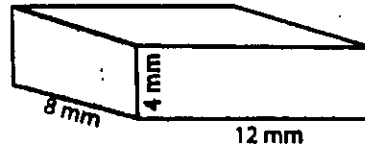
Volume = \_\_\_\_\_

4)



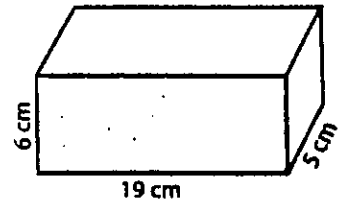
Volume = \_\_\_\_\_

5)



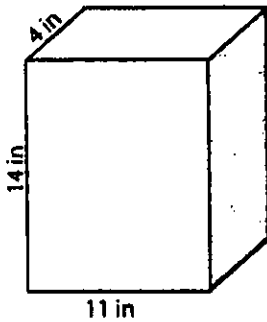
Volume = \_\_\_\_\_

6)



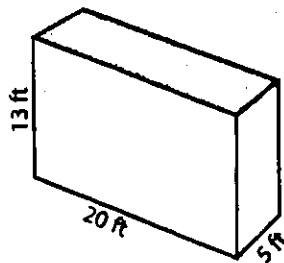
Volume = \_\_\_\_\_

7)



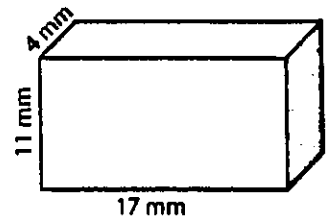
Volume = \_\_\_\_\_

8)



Volume = \_\_\_\_\_

9)



Volume = \_\_\_\_\_

10) A bath tub in the shape of a rectangular prism is 20 meter long, 10 meter wide and 5 meter deep. How much water can it hold?

Volume = \_\_\_\_\_

# Solving Two-Step Equations

Multiplication & Division - Negative Coefficients

Name: \_\_\_\_\_ Date: \_\_\_\_\_



Solve the equations.

(1)  $-69 = 41 + 5x$

(2)  $4 + \frac{x}{10} = -4$

(3)  $-156 = -9x - 39$

(4)  $-155 = 13x - 64$

(5)  $69 = -36 - 5x$

(6)  $89 - 7x = -58$

(7)  $-16 = -2 + \frac{x}{2}$

(8)  $-97 = -21 + 4x$

(9)  $-3 = \frac{x}{5} + 1$

(10)  $-6 = \frac{x}{-14} - 1$

(11)  $-2 + \frac{x}{-5} = 4$

(12)  $-8 = \frac{x}{-6} - 1$

(13)  $-3 = 4 + \frac{x}{-5}$

(14)  $-70 - 14x = 98$

(15)  $80 = 12x - 112$

## Multiplying and Dividing Fractions (F)

Find the value of each expression in lowest terms.

1.  $\frac{7}{6} \div \frac{3}{11}$

6.  $\frac{1}{3} \div \frac{1}{5}$

11.  $\frac{1}{2} \div \frac{18}{7}$

2.  $\frac{7}{2} \div \frac{11}{5}$

7.  $\frac{16}{7} \div \frac{1}{7}$

12.  $\frac{1}{4} \times \frac{17}{2}$

3.  $\frac{3}{5} \times \frac{3}{2}$

8.  $\frac{9}{2} \times \frac{3}{11}$

13.  $\frac{7}{6} \times \frac{17}{7}$

4.  $\frac{19}{6} \times \frac{5}{4}$

9.  $\frac{2}{5} \times \frac{22}{9}$

14.  $\frac{15}{4} \times \frac{3}{4}$

5.  $\frac{1}{10} \times \frac{23}{3}$

10.  $\frac{4}{7} \times \frac{13}{3}$

15.  $\frac{11}{6} \times \frac{20}{11}$

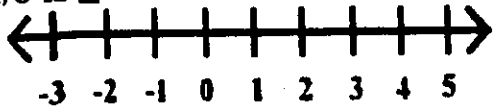
Name: \_\_\_\_\_

Solve School

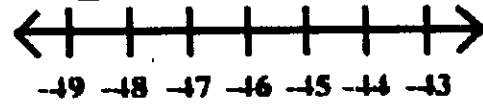
Date: \_\_\_\_\_

Solve each inequality and graph the solution

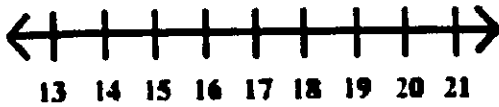
$$6n \geq 0$$



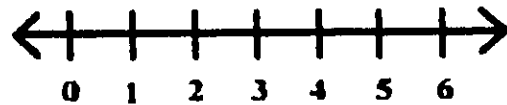
$$b - 7 \geq -7$$



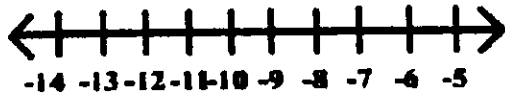
$$8b \leq 152$$



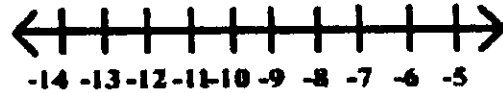
$$9y \leq 54$$



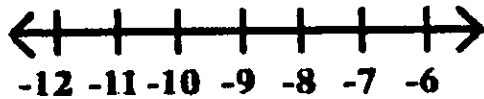
$$-19 \geq x - 7$$



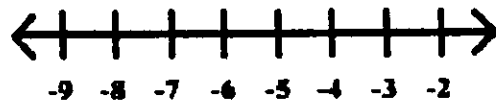
$$-11 \geq b - 5$$



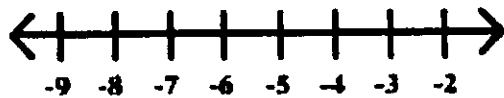
$$-5 \leq b + 2$$



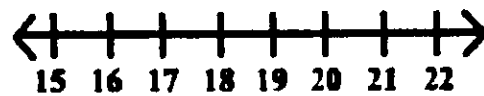
$$-7 \geq a - 3$$



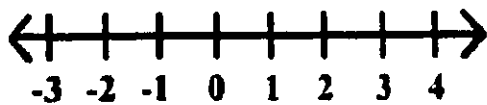
$$15 + y \leq 12$$



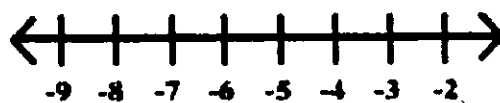
$$26 \leq b + 8$$



$$-14 > -12 + y$$



$$11 + s \leq 4$$







Solve each problem. Round your answer to the nearest hundredth (if necessary).

1)

$$9 \overline{) 10}$$

2)

$$4 \overline{) 613}$$

3)

$$54 \overline{) 45}$$

**Answers**

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

5. \_\_\_\_\_

6. \_\_\_\_\_

4)

$$8 \overline{) 78}$$

5)

$$32 \overline{) 697}$$

6)

$$3 \overline{) 140}$$



Solve each problem.

1)  $30 + 53.29 =$  \_\_\_\_\_

2)  $622.5 \div 0.75 =$  \_\_\_\_\_

3)  $7.8 \times 9.7 =$  \_\_\_\_\_

4)  $6.501 + 36.786 =$  \_\_\_\_\_

5)  $62.5 - 62.4 =$  \_\_\_\_\_

6)  $4.968 \div 0.27 =$  \_\_\_\_\_

7)  $6,137 \div 1.9 =$  \_\_\_\_\_

8)  $63 + 46.2 =$  \_\_\_\_\_

9)  $4.99 \times 5.95 =$  \_\_\_\_\_

10)  $5.266 \times 5.179 =$  \_\_\_\_\_

11)  $87.51 - 5.399 =$  \_\_\_\_\_

12)  $48.8 - 1.957 =$  \_\_\_\_\_

**Answers**

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

5. \_\_\_\_\_

6. \_\_\_\_\_

7. \_\_\_\_\_

8. \_\_\_\_\_

9. \_\_\_\_\_

10. \_\_\_\_\_

11. \_\_\_\_\_

12. \_\_\_\_\_

# Fractions/Decimals Worksheet

Write the following fractions as decimals.

1 a.  $\frac{18}{50} =$

1 b.  $\frac{69}{100} =$

2 a.  $\frac{1}{5} =$

2 b.  $\frac{4}{10} =$

3 a.  $\frac{57}{100} =$

3 b.  $\frac{1}{2} =$

4 a.  $\frac{1}{10} =$

4 b.  $\frac{5}{100} =$

5 a.  $\frac{96}{100} =$

5 b.  $\frac{8}{10} =$

6 a.  $\frac{1}{100} =$

6 b.  $\frac{23}{100} =$

7 a.  $\frac{99}{100} =$

7 b.  $\frac{6}{10} =$

8 a.  $\frac{6}{20} =$

8 b.  $\frac{11}{25} =$

9 a.  $\frac{51}{100} =$

9 b.  $\frac{58}{100} =$



Determine if the number is rational (R) or irrational (I).

- 1)  $61\pi$
- 2) 42
- 3)  $75.082\overline{106}$
- 4)  $\sqrt{101}$
- 5)  $65.42\overline{79}$
- 6)  $\frac{20}{6}$
- 7)  $\pi$
- 8)  $5.62\overline{13}$
- 9)  $\frac{98}{16}$
- 10) 39
- 11) 89.396668...
- 12)  $\sqrt{17}$
- 13) 67.714813...
- 14)  $\sqrt{64}$
- 15)  $\frac{1}{4}$
- 16)  $\sqrt{25}$
- 17)  $71.5\overline{186}$
- 18)  $\frac{7}{54}$
- 19) 20.455566...
- 20) 97.33997

Answers

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_
7. \_\_\_\_\_
8. \_\_\_\_\_
9. \_\_\_\_\_
10. \_\_\_\_\_
11. \_\_\_\_\_
12. \_\_\_\_\_
13. \_\_\_\_\_
14. \_\_\_\_\_
15. \_\_\_\_\_
16. \_\_\_\_\_
17. \_\_\_\_\_
18. \_\_\_\_\_
19. \_\_\_\_\_
20. \_\_\_\_\_

NAME \_\_\_\_\_

SHARPEN  
YOUR  
SKILLS**Adding and Subtracting Integers**

Add or subtract.

1.  $-4 - (4)$  \_\_\_\_\_

2.  $-7 + 9$  \_\_\_\_\_

3.  $-9 - (-9)$  \_\_\_\_\_

4.  $-25 - (-5)$  \_\_\_\_\_

5.  $0 + (-8)$  \_\_\_\_\_

6.  $-8 - (-12)$  \_\_\_\_\_

7.  $-9 + 22$  \_\_\_\_\_

8.  $-17 - 20$  \_\_\_\_\_

9.  $15 - 42$  \_\_\_\_\_

10.  $-12 + (-2)$  \_\_\_\_\_

11.  $67 - (-66)$  \_\_\_\_\_

12.  $13 + (-7)$  \_\_\_\_\_

13.  $6 - 26$  \_\_\_\_\_

14.  $-22 - 15$  \_\_\_\_\_

15.  $-32 - (-36)$  \_\_\_\_\_

16.  $14 + (-20)$  \_\_\_\_\_

17.  $8 - (-7)$  \_\_\_\_\_

18.  $8 + (-3)$  \_\_\_\_\_

19.  $-9 + 9 =$  \_\_\_\_\_

20.  $37 - 22$  \_\_\_\_\_

21.  $-15 + 8$  \_\_\_\_\_

22.  $17 + (-7)$  \_\_\_\_\_

23.  $-12 + 8$  \_\_\_\_\_

24.  $-36 - (-9)$  \_\_\_\_\_

25.  $9 - (-4)$  \_\_\_\_\_

26.  $-9 + (-9)$  \_\_\_\_\_

27.  $16 + (-2)$  \_\_\_\_\_

28.  $24 - (-10)$  \_\_\_\_\_

29.  $-32 + 27$  \_\_\_\_\_

30.  $16 + (-32)$  \_\_\_\_\_

31.  $-10 + 28 + (-7)$  \_\_\_\_\_

32.  $-19 + 21 + 15 + (-5)$  \_\_\_\_\_

33.  $32 - 54 - (-2)$  \_\_\_\_\_

34.  $61 - (-50) + 22$  \_\_\_\_\_

35.  $-4 - 8 - (-12)$  \_\_\_\_\_

36.  $-38 - 21 - (-51)$  \_\_\_\_\_

Complete the tables.

	$a$	$9 + a$
37.	2	
38.	-2	
39.	-3	

	$b$	$12 - b$
40.		7
41.	0	
42.		-4

	$c$	$c + 5$
43.	-4	
44.		16
45.		-12

NAME \_\_\_\_\_


 SHARPEN  
YOUR  
SKILLS

**Solving One-Step Multiplication/  
Division Equations**

Solve each equation.

1.  $45 = \frac{n}{5}$

\_\_\_\_\_

2.  $2.4x = 1.8$

\_\_\_\_\_

3.  $\frac{1}{3}y = 14$

\_\_\_\_\_

4.  $\frac{18}{5} = \frac{4m}{3}$

\_\_\_\_\_

5.  $\frac{2}{3}n = -18$

\_\_\_\_\_

6.  $40p = 1,520$

\_\_\_\_\_

7.  $5q = -4\frac{2}{3}$

\_\_\_\_\_

8.  $7r = -\frac{7}{8}$

\_\_\_\_\_

9.  $2\frac{5}{7}t = 10$

\_\_\_\_\_

10.  $10x = 24$

\_\_\_\_\_

11.  $1\frac{1}{3}p = 18$

\_\_\_\_\_

12.  $63q = 1,071$

\_\_\_\_\_

**Mixed Practice** Solve each equation.

13.  $k + 7 = 34$

\_\_\_\_\_

14.  $\frac{1}{4} + g = \frac{5}{8}$

\_\_\_\_\_

15.  $x - 81 = 53$

\_\_\_\_\_

16.  $1\frac{1}{2} + t = 4$

\_\_\_\_\_

17.  $3\frac{1}{4}y = 2\frac{1}{2}$

\_\_\_\_\_

18.  $6 = 3\frac{1}{2} + b$

\_\_\_\_\_

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Write the following fractions as decimals.

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1 b.  $\frac{69}{100} =$

2 a.  $\frac{1}{5} =$

2 b.  $\frac{4}{10} =$

3 a.  $\frac{57}{100} =$

3 b.  $\frac{1}{2} =$

4 a.  $\frac{1}{10} =$

4 b.  $\frac{5}{100} =$

5 a.  $\frac{96}{100} =$

5 b.  $\frac{8}{10} =$

6 a.  $\frac{1}{100} =$

6 b.  $\frac{23}{100} =$

7 a.  $\frac{99}{100} =$

7 b.  $\frac{6}{10} =$

8 a.  $\frac{6}{20} =$

8 b.  $\frac{11}{25} =$

9 a.  $\frac{51}{100} =$

9 b.  $\frac{58}{100} =$

## Inequalities Word Problem Worksheet

**Establish a variable, write an inequality to represent the scenerio, and solve. Write a complete sentence to describe your solution.**

- 1) Keith has \$500 in a savings account at the beginning of the summer. He wants to have at least \$200 at the end of the summer. He withdraws \$25 per week for food, clothing, and movie tickets. How many weeks can Keith withdraw money from his account?
  
  
  
  
  
  
  
  
  
  
- 2) A taxi charges a flat rate of \$1.75, plus an additional \$0.65 per mile. If Erica has at most \$10 to spend on the cab ride, how far could she travel?
  
  
  
  
  
  
  
  
  
  
- 3) Chris wants to order DVD's over the internet. Each DVD costs \$15.99 and shipping the entire order costs \$9.99. If he can spend no more than \$100, how many DVD's could he buy?
  
  
  
  
  
  
  
  
  
  
- 4) Allison practices her violin for at least 12 hours per week. She practices for three fourths of an hour each session. If Allison has already practiced 3 hours this week, how many more sessions remain for her to meet or exceed her weekly practice goal?
  
  
  
  
  
  
  
  
  
  
- 5) Pet Supplies makes a profit of \$5.50 per bag on its line of natural dog food. If the store wants to make a profit of no less than \$5225, how many bags of dog food does it need to sell?