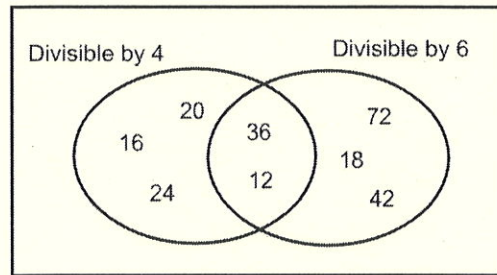


Calculator Questions:
 multiple choice #16, 18-25
 constructed response #1, 2, 5, 10, 11

Grade 7 Math Practice Midterm

- Which number is divisible by both 6 and 9?
 a. 115 **b. 342** c. 513 d. 615
- What is the correct estimate of $3.1 + 4.8$ if you are using *front-end* estimation?
a. 7 b. 7.8 c. 8 d. 8.7
- Which two numbers are in the wrong location in the Venn Diagram?

- 12 and 36
- 24 and 72**
- 16 and 18
- 20 and 42



- A large party pizza has 24 slices. How many friends would you invite to *join* you, if you wanted to share *two* large pizzas equally?

7 friends + you = 8 people
 $48 \div 8 = 6$

- 7**
- ~~8~~
- 9
- 1
 another possible answer.

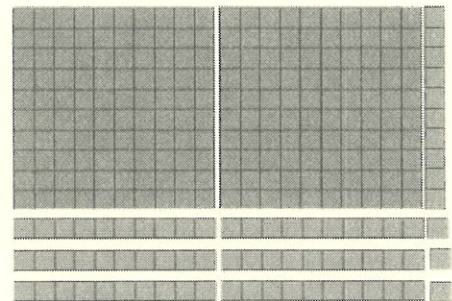
- Which fraction is equal to 0.25?

- $\frac{1}{4}$**
- $\frac{2}{4}$
- $\frac{25}{10}$
- $\frac{25}{99}$

- Which multiplication equation is represented by the diagram?

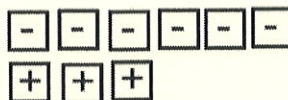
- $1.1 \times 2.3 = 2.53$
- $2.3 \times 1.1 = 2.53$
- $1.3 \times 2.1 = 2.37$
- $2.1 \times 1.3 = 2.73$**

$$\begin{array}{r} 1 \times 2 = 2.00 \\ 0.1 \times 7 = 0.70 \\ 0.01 \times 3 = 0.03 \\ + \\ \hline 2.73 \end{array}$$



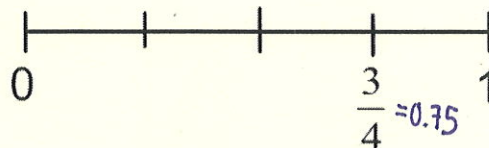
- Which sum does this set of tiles model?

- $(-6) + (+3) = -9$
- $(-6) + (+3) = -3$**
- $(-6) + (+3) = +3$
- $(-6) + (+3) = +9$



8. Which fraction would fit between $\frac{3}{4}$ and 1?

- a. $\frac{2}{5} = 0.4$ b. $\frac{3}{5} = 0.6$ c. $\frac{4}{5} = 0.8$ d. $\frac{6}{5} = 1.2$



9. What is the best estimate for the circumference of a circle with a radius of 6 cm?

- a. 6 b. 18 c. 27 d. 36

$$C = 2\pi r$$

$$= 2(3)(6)$$

$$= 36$$

10. Which relation produces the data in the table?

- a. $2x$
b. $2x + 3$
c. $3x - 2$
d. $4x - 4$

$$3x - 2$$

Term #	1	2	3	4	5
Term	1	4	7	10	13

numerical coefficient

11. At the year-end soccer party, each player received two hotdogs and there were 4 hotdogs left over. What an algebraic expression that would represent the total number of hotdogs at the party?

- a. $p + 2$ b. $2p + 2$ c. $2p + 4$ d. $4p + 2$

$$2p + 4$$

12. What expression represents the phrase, "six less than double a number?"

- a. $\frac{n}{2} - 6$ b. $2n - 6$ c. $6 - 2n$ d. $6n - 2$

$$2n - 6$$

13. What is the value of $4k + 7$ when $k = 4$?

- a. 15 b. 23 c. 37 d. 51

$$4(4) + 7$$

$$= 16 + 7$$

$$= 23$$

14. Lex earns \$2 for each box of catalogues he delivers and gets another \$12 for delivering flyers. If he receives a total of \$36 for his pay, which equation allows you to determine how many boxes he delivered?

- a. $2B + 12 = 36$ c. $12B + 2 = 36$
b. $2B - 36 = 12$ d. $12B - 36 = 2$

$$2B + 12 = 36$$

15. Which ordered list represents the output values for the table below?

- a. 0, 1, 2, 3
b. 4, 9, 14, 19
c. 5, 4, 3, 2
d. 5, 10, 15, 20

Input n	Output $5n - 1$
1	$5(1) - 1 = 5 - 1 = 4$
2	$5(2) - 1 = 10 - 1 = 9$
3	$5(3) - 1 = 15 - 1 = 14$
4	$5(4) - 1 = 20 - 1 = 19$

16. A pack of pencils cost \$1.99. Sales tax is 13%. How much tax is added to the cost of the pencils?

- a. \$0.13 b. \$0.26 c. \$0.39 d. \$0.93

Tax is 13% of \$1.99

$$\text{Tax} = 0.13 \times 1.99$$

$$= 0.2587$$

$$= 0.26$$

$$4.2 \div 2.1 = 2$$

$$\begin{array}{r} 2 \\ 2 \overline{) 4.2} \\ \underline{-4.2} \\ 0 \end{array}$$

OR

$$\begin{array}{r} 4.2 \\ \times 3 \\ \hline 12.6 \end{array}$$

$$\begin{array}{r} 12.6 \\ + 2.0 \\ \hline 14.6 \end{array}$$

$$\begin{array}{l} 4.2 \times 3.0 + 4.2 \div 2.1 \\ 12.6 + 4.2 \div 2.1 \\ 12.6 + 2 \\ 14.6 \end{array}$$

17. What is the solution to $4.2 \times 3.0 + 4.2 \div 2.1$?

- a. 8 **b. 14.6** c. 16.8 d. 18

18. If the radius of a circle is 4cm, what is the diameter?

- a. 1.27 cm b. 2 cm **c. 8 cm** d. 12.56 cm

$$d = 4 \times 2 = 8$$

19. What is the circumference of a circle that has diameter 10cm?

- a. 15.7 cm **b. 31.4 cm** c. 78.5 cm d. 314

$$\begin{array}{l} C = \pi d \\ = (3.14)(10) \\ = 31.4 \end{array}$$

20. What would be a correct estimate for the area of a circle with diameter 8m?

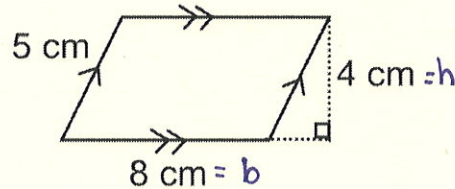
- a. 12 m² b. 24 m² **c. 48 m²** d. 192 m²

$$\begin{array}{l} r = 8 \div 2 = 4 \\ A_{\text{circle}} = \pi \times r \times r \\ = (3)(4)(4) \\ = 48 \text{ m}^2 \end{array}$$

21. What is the area of the given parallelogram?

- a. 5 cm²
b. 32 cm²
c. 40 cm²
d. 120 cm²

$$\begin{array}{l} A_{\text{parallelogram}} = bh \\ = (8)(4) \\ = 32 \text{ cm}^2 \end{array}$$



22. If a circle has a circumference of 20 cm, what is its area?

- a. 6.4 cm b. 10 cm c. 12 cm **d. 32 cm**

$$d = \frac{C}{\pi} = \frac{20}{3.14} = 6.37$$

$$r = 6.37 \div 2 = 3.18$$

$$\begin{array}{l} A_{\text{circle}} = \pi \times r \times r \\ = (3.14)(3.18)(3.18) \\ = 31.75 \text{ cm}^2 \end{array}$$

23. What is the area of the circle with diameter 22cm?

$$r = 22 \div 2 = 11$$

- a. 34.54 cm² b. 69.08 cm² **c. 379.94 cm²** d. 1519.76 cm²

$$\begin{array}{l} A_{\text{circle}} = \pi \times r \times r \\ = (3.14)(11)(11) \\ = 379.94 \text{ cm}^2 \end{array}$$

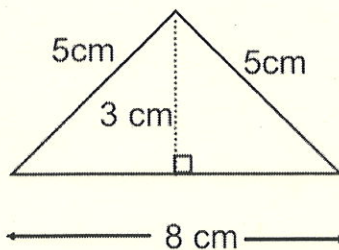
24. If a parallelogram has an area of 64 cm² and height 4 cm, what is its length?

- a. 16 cm** b. 68 cm c. 136 cm d. 256 cm

$$\begin{array}{l} \text{Length} = \text{Area} \div \text{height} \\ = 64 \div 4 \\ = 16 \text{ cm} \end{array}$$

25. What is the area of the following triangle?

- a. 7.5 cm²
b. 12 cm²
c. 18 cm²
d. 24 cm²



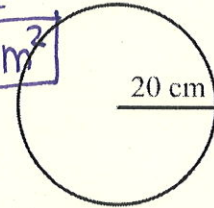
$$A_{\text{triangle}} = \frac{bh}{2} = \frac{(8)(3)}{2} = \frac{24}{2} = 12 \text{ cm}^2$$

Constructed Response. Answer all questions in the space provided.

1. Bobby buys a pizza with a radius of 20 cm. If he cuts it into 8 equal pieces, what is the area of each slice?

$$\begin{aligned}
 A_{\text{entire pizza}} &= \pi \times r \times r \\
 &= (3.14)(20)(20) \\
 &= 1256 \text{ cm}^2
 \end{aligned}$$

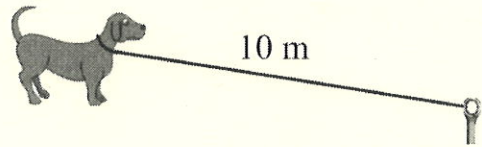
Area of each slice
 $1256 \div 8 = 157 \text{ cm}^2$



2. A dog is leashed on a chain that is 10 m long connected to a peg in the ground. The owner wants to build a circular fence around the dog that has a radius 1 m longer than the leash.

- A. What is the length of the fence?

$$\begin{aligned}
 \text{radius of fence} &= 10 + 1 = 11 \text{ m} \\
 \text{Diameter} &= 11 \times 2 = 22 \text{ m}
 \end{aligned}$$



$$\text{Length (Circumference)} = \pi d = (3.14)(22) = 69.08 \text{ m}$$

- B. What is the area of grass between the fence and the end of the leash?

$$\begin{aligned}
 A_{\text{big circle (fence)}} &= \pi \times r \times r \\
 &= (3.14)(11)(11) \\
 &= 379.94 \text{ m}^2
 \end{aligned}$$

$$\begin{aligned}
 A_{\text{leash}} &= \pi \times r \times r \\
 &= (3.14)(10)(10) \\
 &= 314 \text{ m}^2
 \end{aligned}$$

Area of grass between the fence and the end of the leash
 $379.94 - 314 = 65.94 \text{ m}^2$

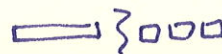
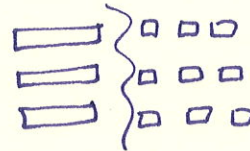
3. Sketch algebra tiles to solve each equation.

A) $x + 4 = 12$



$x = 8$

B) $3m + 2 = 11$



$m = 3$

4. Marcus bought 4 CDs for \$6 each and sold 5 CDs for \$5 each.

A) Write an equation to find Marcus' overall earnings or losses.

$$\underbrace{(-6) + (-6) + (-6) + (-6)}_{(-24)} + \underbrace{5 + 5 + 5 + 5 + 5}_{25} = 1$$

Marcus' overall earning is \$1.

B) Solve the equation. State your final answer.

5. Sam took \$120 to the mall to buy hair products. She wants to purchase shampoo for \$7, hair spray for \$12, styling products for \$25, and a curling iron for \$45. Sales tax is 13%.

Does Sam have enough money to buy all the hair products? Support your answer with workings.

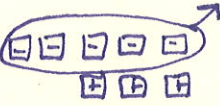
$$\text{Total Cost} = 7 + 12 + 25 + 45 = \$89$$

$$\text{Tax} = 13\% \text{ of } 89 = 0.13 \times 89 = 11.57$$

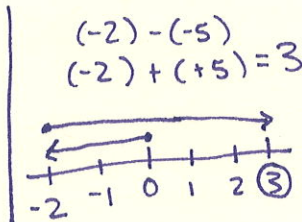
Total Cost with Tax = $89 + 11.57 = \boxed{\$100.57}$, so yes Sam has enough to buy all the hair products.

6. Evaluate:

A. $(-2) - (-5)$ (model)



$$(-2) - (-5) = 3$$



C. $5 - 12$

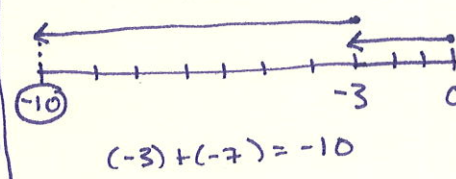
$$= 5 + (-12)$$

$$= -7$$

B. $(-3) + (-7)$ (model)



$$(-3) + (-7) = -10$$



$$(-3) + (-7) = -10$$

D. $(-3) - (-4) + (-5)$

$$= (-3) + (+4) + (-5)$$

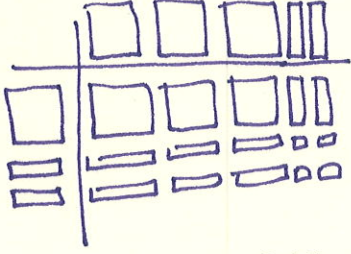
$$= (+1) + (-5)$$

$$= -4$$

7.

Evaluate: $est: 1 \times 3 = 3$

A. 1.2×3.2 (model)



$$\begin{array}{r}
 1 \times 3 = 3.00 \\
 0.1 \times 8 = 0.80 \\
 0.01 \times 4 = 0.04 \\
 \hline
 3.84
 \end{array}$$

$$\begin{array}{r}
 300 \\
 60 \\
 20 \\
 +4 \\
 \hline
 384
 \end{array}$$

	10	2
30	$10 \times 30 = 300$	$30 \times 2 = 60$
2	$10 \times 2 = 20$	$2 \times 2 = 4$

B. $5.4 \div 0.9 = 6$

$$\begin{array}{r}
 6 \\
 9 \overline{)54} \\
 \underline{-54} \\
 0
 \end{array}$$

C. $4.5 - 2.37$

$$\begin{array}{r}
 4.50 \\
 -2.37 \\
 \hline
 2.13
 \end{array}$$

D. $3.1 + 0.8 + 4.25$

$$\begin{array}{r}
 3.10 \\
 0.80 \\
 +4.25 \\
 \hline
 8.15
 \end{array}$$

8.

Evaluate: $3.2 + 1.4 \times 0.2 - 2.1 \div 0.7$

$$\begin{array}{r}
 3.2 + 0.28 - 2.1 \div 0.7 \\
 \underline{3.2 + 0.28} - 3 \\
 3.48 - 3 \\
 0.48
 \end{array}$$



$$\begin{array}{r}
 3.20 \\
 +0.28 \\
 \hline
 3.48
 \end{array}$$

$$\begin{array}{r}
 1.4 \\
 \times 0.2 \\
 \hline
 0.28
 \end{array}$$

$$\begin{array}{r}
 2.1 \div 0.7 \\
 \hline
 3
 \end{array}$$

$$\begin{array}{r}
 3.48 \\
 -3.00 \\
 \hline
 0.48
 \end{array}$$

9.

Place in the correct order: $3.1, 3.01, 3.\bar{1}, 3\frac{1}{4} = 3.25$

- 3.10
- 3.01
- 3.11...
- 3.25

least to greatest: $3.01, 3.1, 3.\bar{1}, 3\frac{1}{4}$

10.

Of the 450 students in Grade 7 and 8, 45% like the colour purple. How many like purple?

$$\begin{array}{l}
 45\% \text{ of } 450 \\
 0.45 \times 450 \\
 202.5
 \end{array}$$

About 203 students like purple.

11.

Johnny had 16 out of 23 marks on his Math test. What percent did he get?

$$\frac{16}{23} \rightarrow 16 \div 23 = 0.6956... = 70\%$$