Readiness Evaluation

Why Evaluate Readiness?

Teaching could be defined as the process of starting with what a student knows and guiding him to added knowledge with new material. While this may not be a dictionary definition of teaching, it is descriptive of the processes involved. Determining a student's readiness for Pre-Algebra is the first step to successful teaching.

Types of Readiness

True readiness has little to do with chronological age. Emotional maturity and mental preparation are the main components of academic readiness. The teacher who is dealing directly with the student is best able to determine a child's emotional maturity. All emotionally immature students may need special student training in their problem areas. A child's mental *preparation* can be more easily discerned with a simple diagnostic evaluation. Observing the child's attitude of confidence or insecurity while taking the evaluation may help determine emotional readiness.

Determining Readiness

The pre-algebra *Readiness Evaluation* on the following pages helps the teacher to determine if student(s) are ready to begin studying math at the pre-algebra level. Complete this evaluation the first or second day of school.

The evaluation should take 45-60 minutes. It would be helpful to evaluate all of the students to determine what each student knows. However, you may want to evaluate only those student(s) who you sense have not had a thorough preparation for this course. It is especially important to evaluate any student who is using this curriculum for the first time. The student(s) should be able to complete the test on their own with the teacher making sure they understand the directions for each individual activity.

The answer key follows the test. Count each individual answer as a separate point. The total for the test is 61 points. The student(s) should achieve a score of 43 or more points to be ready to begin pre-algebra. Be sure to note the areas of weakness of each student, even those who have scored over 43 points. If the student(s) scored under 43 points, they may need to repeat a previous math level or do some refresher work in their areas of weakness. For possible review of the identified areas of weakness, refer to the chart *Appearance of Concepts* in the *Horizons Math 6 Teacher's Guide*. It will locate lessons where the concepts were taught.

Horizons Pre-Algebra Readiness Evaluation

Name: _____

① Solve. **20 Points**

49319 +72165	62145 +14906	87881 +98373	19.67 +65.34	457.09 +256.8
28473 −10662	67294 −34154	86476 −75093	39.974 −16.237	567.23 −92.3745
233 ×92	437 ×65	812 ×96	7.3 ×6.1	7.8 ×.66
$96\overline{)768}$	$47\overline{)423}$	$66\overline{)264}$	$.15\overline{)1.35}$	$.16\overline{)20.8}$

② Estimate the sum by rounding to the nearest thousand. **4 Points**

2903 +1102 ≈	7987 +2019 ≈	4176 +8885 ≈	3997 +4009 ≈

③ Estimate each product by rounding to the nearest ten. **4 Points**

21 x 128 ≈

67 x 32 ≈

58 x 61 ≈

52 x 48 ≈

④ Find all of the factors for each of the following numbers. **4 Points**

12 18

15 21

⑤ Identify each number as prime or composite. **9 Points**

2	5	13
3	7	15
4	11	19

⑥ Solve. **6 Points**

$x + 6 + 5 = 18$ $x + 3x + 3 + 7 = 26$ $2x + 3x + 6 - 1 = 20$

$3x + x - 9 + 4 = 31$ $5x - 2x + 11 - 4 - 1 = 24$ $6x + 2x - x - 8 - 4 + 1 = 38$

⑦ Add, subtract, multiply, or divide as indicated. **8 Points**

$\frac{1}{7} + \frac{4}{7} =$ $\frac{2}{5} \times \frac{1}{5} =$

$\frac{1}{3} + \frac{1}{6} =$ $\frac{5}{8} \times \frac{4}{5} =$

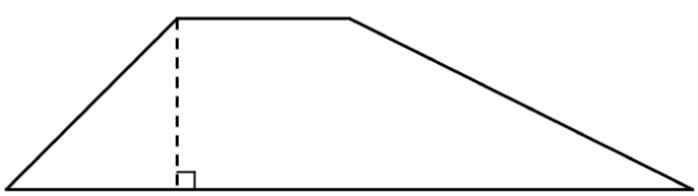
$\frac{4}{5} - \frac{3}{5} =$ $\frac{3}{8} \div \frac{1}{8} =$

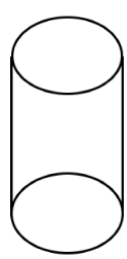
$\frac{9}{10} - \frac{3}{4} =$ $\frac{5}{8} \div \frac{3}{4} =$

⑧ Solve. **2 Points**

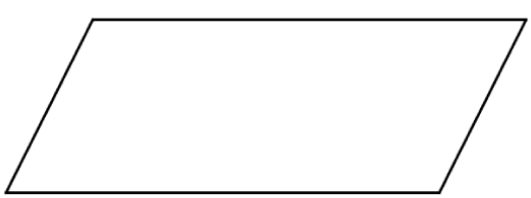
What is 45% of 80? What is 0.36% of 600?

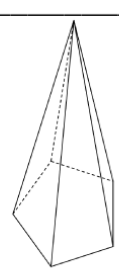
⑨ Identify each shape. **4 Points**





_____ _____





_____ _____ **61 points total**

Horizons Pre-Algebra Readiness Evaluation Answer key

① Solve. **20 Points**

49319 + 72165 = 121,484	62145 + 14906 = 77,051	87881 + 98373 = 186,254	19.67 + 65.34 = 85.01	457.09 + 256.8 = 713.89
28473 − 10662 = 17,811	67294 − 34154 = 33,140	86476 − 75093 = 11,383	39.974 − 16.237 = 23.737	567.23 − 92.3745 = 474.8555
233 × 92 = 21,436	437 × 65 = 28,405	812 × 96 = 77,952	7.3 × 6.1 = 44.53	7.8 × .66 = 5.148
96)768 = 8	47)423 = 9	66)264 = 4	.15)1.35 = 9	.16)20.80 = 130

② Estimate the sum by rounding to the nearest thousand. **4 Points**

2903 + 1102 ≈ 3000 + 1000 = 4,000	7987 + 2019 ≈ 8000 + 2000 = 10,000	4176 + 8885 ≈ 4000 + 9000 = 13,000	3997 + 4009 ≈ 4000 + 4000 = 8,000

③ Estimate each product by rounding to the nearest ten. **4 Points**

21 x 128 ≈ 20 x 130 = 2,600
67 x 32 ≈ 70 x 30 = 2,100
58 x 61 ≈ 60 x 60 = 3,600
52 x 48 ≈ 50 x 50 = 2,500

④ Find all of the factors for each of the following numbers. **4 Points**

12	1, 2, 3, 4, 6, 12	18	1, 2, 3, 6, 9, 18
15	1, 3, 5, 15	21	1, 3, 7, 21

⑤ Identify each number as prime or composite. **9 Points**

2	Prime	5	Prime	13	Prime
3	Prime	7	Prime	15	Composite
4	Composite	11	Prime	19	Prime

⑥ Solve. **6 Points**

$x + 6 + 5 = 18$

$x + 11 = 18$

$x = 7$

$x + 3x + 3 + 7 = 26$

$4x + 10 = 26$

$4x = 16$

$x = 4$

$2x + 3x + 6 - 1 = 20$

$5x + 5 = 20$

$5x = 15$

$x = 3$

$3x + x - 9 + 4 = 31$

$4x - 5 = 31$

$4x = 36$

$x = 9$

$5x - 2x + 11 - 4 - 1 = 24$

$3x + 6 = 24$

$3x = 18$

$x = 6$

$6x + 2x - x - 8 - 4 + 1 = 38$

$7x - 11 = 38$

$7x = 49$

$x = 7$

⑦ Add, subtract, multiply, or divide as indicated. **8 Points**

$\frac{1}{7} + \frac{4}{7} = \frac{1+4}{7} = \frac{5}{7}$

$\frac{1}{3} + \frac{1}{6} = \frac{1 \times 2}{3 \times 2} + \frac{1}{6} = \frac{2}{6} + \frac{1}{6} = \frac{3}{6} = \frac{1}{2}$

$\frac{4}{5} - \frac{3}{5} = \frac{4-3}{5} = \frac{1}{5}$

$\frac{9}{10} - \frac{3}{4} = \frac{9 \times 2}{10 \times 2} - \frac{3 \times 5}{4 \times 5} = \frac{18}{20} - \frac{15}{20} = \frac{3}{20}$

$\frac{2}{5} \times \frac{1}{5} = \frac{2 \times 1}{5 \times 5} = \frac{2}{25}$

$\frac{\cancel{5}^{1}}{\cancel{8}_{2}} \times \frac{\cancel{4}^{1}}{\cancel{5}_{1}} = \frac{1}{2}$

$\frac{3}{8} \div \frac{1}{8} = \frac{3}{\cancel{8}_{1}} \times \frac{\cancel{8}^{1}}{1} = \frac{3}{1} = 3$

$\frac{5}{8} \div \frac{3}{4} = \frac{5}{\cancel{8}_{2}} \times \frac{\cancel{4}^{1}}{3} = \frac{5 \times 1}{2 \times 3} = \frac{5}{6}$

⑧ Solve. **2 Points**

What is 45% of 80?

$x = 0.45(80)$

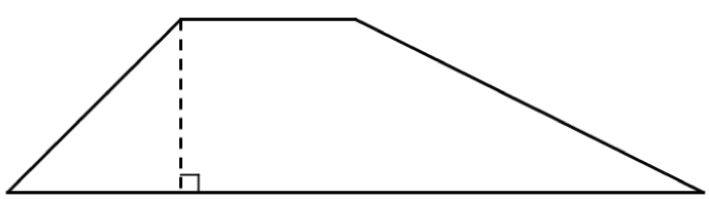
$x = 36$

What is 0.36% of 600?

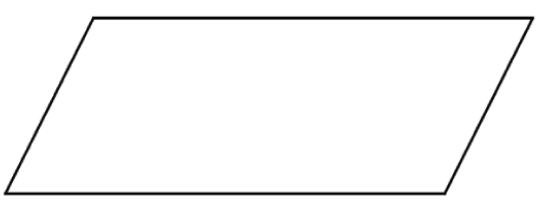
$x = 0.0036(600)$

$x = 2.16$

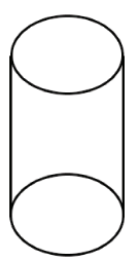
⑨ Identify each shape. **4 Points**



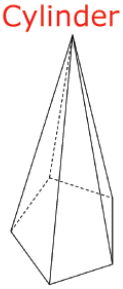
Trapezoid



Parallelogram



Cylinder



Pyramid

61 points total