

Mixed Review – Day 1

1. Which set can *not* represent the lengths of the sides of a triangle?

- (1) $\{8, 8, 17\}$ (2) $\{4, 5, 6\}$ (3) $\{5, 5, 9\}$ (4) $\{7, 7, 12\}$

2. From $5x^2 - 6x + 8$, subtract $3x^2 + 2x + 4$.

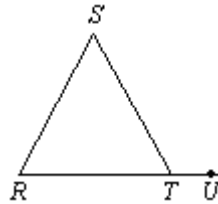
- (1) $2x^2 - 4x + 12$ (2) $-2x^2 - 8x + 4$ (3) $2x^2 - 8x + 4$ (4) $-2x^2 + 4x - 12$

3. Two supplementary angles have measures in ratio 2:1. What is the measure of the *larger* angle?

- (1) 120° (2) 80° (3) 60° (4) 100°

4. Find the value of x .

- (1) 2
(2) 25
(3) -35
(4) 180



$$\overline{RS} \cong \overline{ST}, m\angle SRT = 4x - 70, m\angle STU = 6x$$

5. Which one of the following equations illustrates the commutative property of addition?

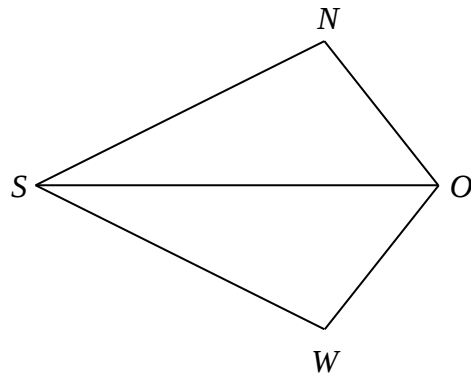
- (1) $a + b = b + a$ (2) $a(b + c) = ab + ac$ (3) $a + (b + c) = (a + b) + c$ (4) $a + 0 = a$

6. If $\cos x = \frac{2}{5}$, what is the measure of $\angle x$, to the nearest degree?

- (1) 67° (2) 66° (3) 24° (4) 23°

7. Given: $\overline{SO}$ bisects $\angle NSW$ and $\overline{NS}$ and $\overline{WS}$ Which of the following methods can be used to prove $\triangle SNO \cong \triangle SWO$?

- (1) SAS
- (2) ASA
- (3) SSS
- (4) HL



8. Which one of the following sets of numbers could represent the measures of the angles of a triangle?

- (1) $\{42^\circ, 90^\circ, 48^\circ\}$ (2) $\{27^\circ, 89^\circ, 54^\circ\}$ (3) $\{78^\circ, 81^\circ, 26^\circ\}$ (4) $\{52^\circ, 110^\circ, 8^\circ\}$

9. What equation could be used to solve the problem below?

If three times a number is increased by 24, the result is four less than seven times the number.

- (1) $3x + 24 = 7x - 4$ (2) $3x + 24 = 4 - 7x$ (3) $27x = 7x - 4$ (4) $3(x + 24) = 7x - 4$

10. In an isosceles triangle, the measure of a base angle is 55° . Find the number of degrees in the measure of the vertex angle.

- (1) 55° (2) 70° (3) 110° (4) 50°

Mixed Review – Day 2

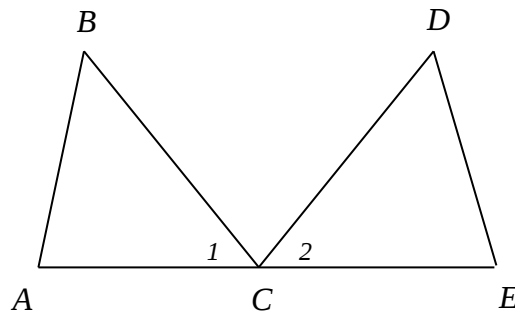
1. What is the value of x in the equation $4(2x+1) = 27 + 3(2x-5)$?

- (1) $7\frac{1}{2}$ (2) 4 (3) 21 (4) 9

2. The lengths of the sides of a triangle are 8, 15, and 17. If the longest side of a similar triangle is 34, what is the length of the *shortest* side?

- (1) 32 (2) 16 (3) 24 (4) 4

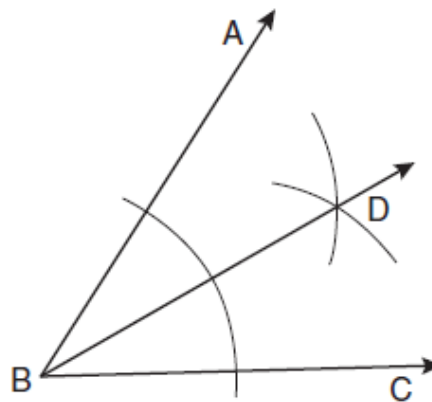
3. Given: $\triangle ABC$, $\triangle EDC$, $\angle 1 \cong \angle 2$, $\overline{BC} \cong \overline{DC}$, and $\overline{AC} \cong \overline{EC}$. Which of the following methods can be used to prove $\triangle ABC \cong \triangle EDC$?



- (1) SAS (2) HL (3) ASA (4) SSS

4. Based on the construction below, which statement must be true?

- (1) $m\angle ABD = \frac{1}{2} m\angle CBD$
 (2) $m\angle ABD = m\angle CBD$
 (3) $m\angle ABD = m\angle ABC$
 (4) $m\angle CBD = \frac{1}{2} m\angle ABD$

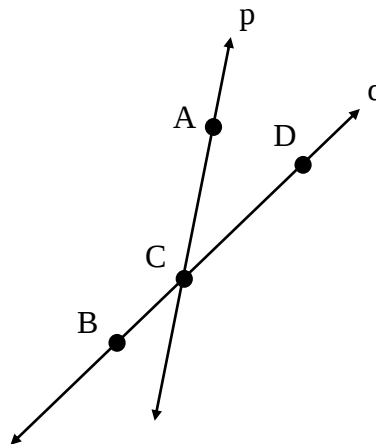


5. Factor: $9x^2 - 49$

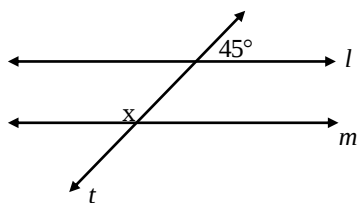
- (1) $(3x + 49)(3x - 49)$ (2) $(3x + 49)(3x + 49)$ (3) $(3x + 7)(3x - 7)$ (4) $(3x + 7)(3x + 7)$

6. Which point is collinear with three other points?

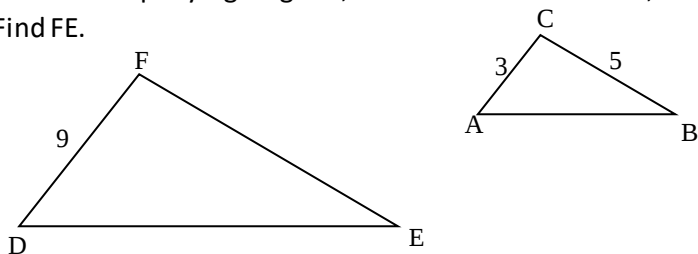
- (1) A
(2) B
(3) C
(4) D



7. In the accompanying diagram, parallel lines l and m are cut by transversal t at a 45° angle. Find the number of degree in angle x .



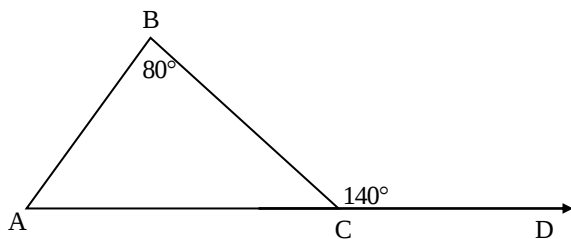
8. In the accompanying diagram, $\triangle ABC$ is similar to $\triangle DEF$, $AC = 3$, $CB = 5$, and $DF = 9$. Find FE .



9. Solve for y : $6y - 4 = 2y + 10$

10. The perimeter of a regular pentagon is 60. What is the length of one side of the pentagon?

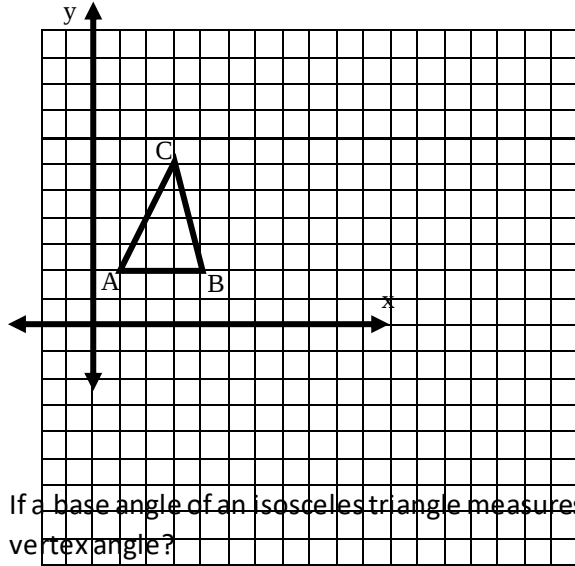
11. In the accompanying diagram, $\overline{AC}$ is extended from C through D, $m\angle BCD = 140$, and $m\angle B = 80$. Find $m\angle BAC$.



12. The hypotenuse of a right triangle is 26 centimeters and one leg is 24 centimeters. Find the number of centimeters in the second leg.

Mixed Review – Day 3

1. What is the area of $\triangle ABC$ as shown in the accompanying diagram?



2. If a base angle of an isosceles triangle measures 50° , what is the number of degrees in the measure of the vertex angle?

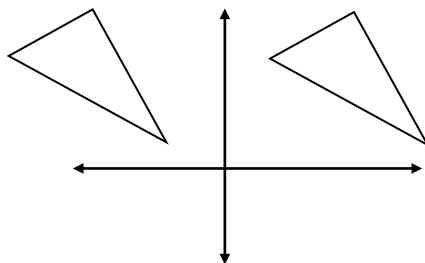
3. Which expression is equivalent to $x^2 + 7x + 6$?

(1) $(x + 6)(x + 1)$ (2) $(x + 3)(x + 2)$ (3) $(x + 1)(x + 7)$ (4) $x(x + 7)$

4. Triangle $A'B'C'$ is the image of $\triangle ABC$ under a given transformation. If $\triangle A'B'C'$ is similar but not congruent to $\triangle ABC$, the transformation must be a

(1) dilation (2) line reflection (3) rotation (4) translation

5. Which transformation is shown in the accompanying diagram?

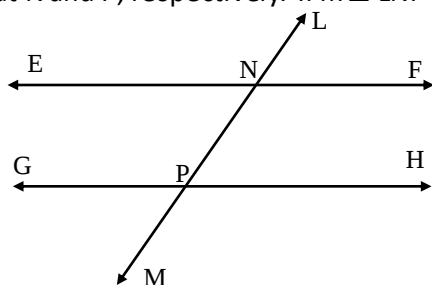


(1) reflection (2) translation (3) rotation (4) dilation

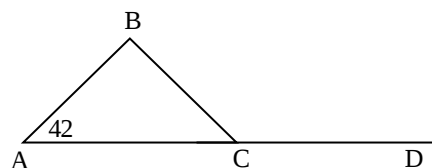
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6. Solve for x : $5x + 2x - 4 = 4x + 5$ 12. _____

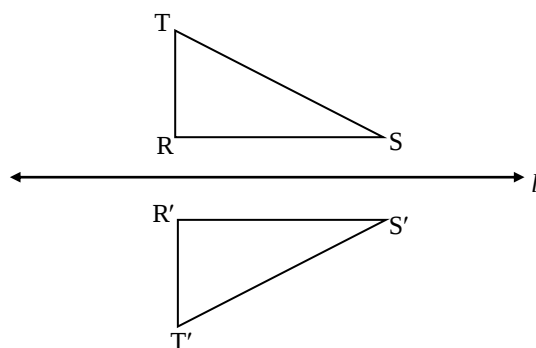
7. In the accompanying diagram, parallel lines $\overleftrightarrow{EF}$ and $\overleftrightarrow{GH}$ are cut by transversal $\overleftrightarrow{LM}$ at N and P , respectively. If $m\angle LNF = 54$, find $m\angle NPG$.



8. In the accompanying diagram of isosceles triangle ABC , $\overline{AB} \cong \overline{BC}$, $\overline{AC}$ is extended to D , and $m\angle A = 42$. Find $m\angle BCD$.



9. Which transformation for $\triangle RST$ is shown in the accompanying diagram? 15. _____



- (1) line reflection (2) rotation (3) translation (4) dilation

10. In two supplementary angles, the measure of one angle is 6 more than twice the
16. _____

measure of the other. The measures of these two angles is

- (1) 28° and 62° (2) 32° and 58° (3) 58° and 122° (4) 62° and 118°

11. What is the y – intercept of the line whose equation is $y = 7x + 5$? 17. _____