Trigonometry

Course Review Packet

Directions: **This review packet is to be completed by all students who are entering the course Trigonometry. The completed packet must be submitted to your teacher on the Monday of the first week of class OR as stated by the teacher of the course. The packet will be used as the first assessment for the Trigonometry course.**

Name _____

Teacher_____ **Block** _____

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Name_____

Evaluating Variable Expressions

Date_____ Period____

Evaluate each using the values given.

1) $n^2 - m$; use $m = 7$, and $n = 8$

2) $8(x - y)$; use $x = 5$, and $y = 2$

3) $yx \div 2$; use $x = 7$, and $y = 2$

4) $m - n \div 4$; use $m = 5$, and $n = 8$

5) $x - y + 6$; use $x = 6$, and $y = 1$

6) $z + x^3$; use $x = 1$, and $z = 19$

7) $y + yx$; use $x = 15$, and $y = 8$

8) $q \div 6 + p$; use $p = 10$, and $q = 12$

9) $x + 8 - y$; use $x = 20$, and $y = 17$

10) $15 - (m + p)$; use $m = 3$, and $p = 10$

11) $10 - x + y \div 2$; use $x = 5$, and $y = 2$

12) $p - 2 + qp$; use $p = 7$, and $q = 4$

13) $zy + 4y$; use $y = 5$, and $z = 2$

14) $b(a + b) + a$; use $a = 9$, and $b = 4$

15) $p^2 \div 4 - m$; use $m = 3$, and $p = 4$

16) $x(y \div 3)^2$; use $x = 4$, and $y = 9$

17) $4 + m + n - m$; use $m = 4$, and $n = 9$

18) $qp + q - p$; use $p = 7$, and $q = 3$

19) $mn \div 6 + 10$; use $m = 7$, and $n = 6$

20) $h + j(j - h)$; use $h = 2$, and $j = 6$

21) $(b - 1)^2 + a^2$; use $a = 6$, and $b = 1$

22) $y(x - (9 - 4y))$; use $x = 4$, and $y = 2$

23) $x - \left(x - \left(x - y^3\right)\right)$; use $x = 9$, and $y = 1$

24) $j(h - 9)^3 + 2$; use $h = 9$, and $j = 8$

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Name_____

Proportions

Date_____ Period____

State if each pair of ratios forms a proportion.

1) $\frac{4}{2}$ and $\frac{20}{6}$

2) $\frac{3}{2}$ and $\frac{18}{8}$

3) $\frac{4}{3}$ and $\frac{16}{12}$

4) $\frac{4}{3}$ and $\frac{8}{6}$

5) $\frac{12}{24}$ and $\frac{3}{4}$

6) $\frac{6}{9}$ and $\frac{2}{3}$

Solve each proportion.

7) $\frac{10}{k} = \frac{8}{4}$

8) $\frac{m}{10} = \frac{10}{3}$

9) $\frac{2}{x} = \frac{7}{9}$

10) $\frac{3}{x} = \frac{7}{10}$

11) $\frac{4}{9} = \frac{2}{x}$

12) $\frac{6}{a} = \frac{3}{8}$

13) $\frac{8n}{8} = \frac{8}{3}$

14) $\frac{7}{9} = \frac{a}{5}$

15) $\frac{p}{8} = \frac{13}{2}$

16) $\frac{3}{13} = \frac{v}{3}$

17) $\frac{10}{12} = \frac{2}{n}$

18) $\frac{11}{10} = \frac{r}{11}$

19) $\frac{x}{9} = \frac{7}{14}$

20) $\frac{a}{10} = \frac{11}{14}$

21) $\frac{v}{12} = \frac{10}{2}$

22) $\frac{6}{14} = \frac{5}{n}$

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Name_____

Proportion Word Problems

Date_____ Period____

Answer each question and round your answer to the nearest whole number.

1) If you can buy one can of pineapple chunks for $2 then how many can you buy with $10?

2) One jar of crushed ginger costs $2. How many jars can you buy for $4?

3) One cantaloupe costs $2. How many cantaloupes can you buy for $6?

4) One package of blueberries costs $3. How many packages of blueberries can you buy for $9?

5) Shawna reduced the size of a rectangle to a height of 2 in. What is the new width if it was originally 24 in wide and 12 in tall?

6) Ming was planning a trip to Western Samoa. Before going, she did some research and learned that the exchange rate is 6 Tala for $2. How many Tala would she get if she exchanged $6?

7) Jasmine bought 32 kiwi fruit for $16. How many kiwi can Lisa buy if she has $4?

8) If you can buy four bulbs of elephant garlic for $8 then how many can you buy with $32?

9) One bunch of seedlees black grapes costs $2. How many bunches can you buy for $20?

10) The money used in Jordan is called the Dinar. The exchange rate is $3 to 2 Dinars. Find how many dollars you would receive if you exchanged 22 Dinars.

11) Gabriella bought three cantaloupes for $7. How many cantaloupes can Shayna buy if she has $21?

12) Jenny was planning a trip to the United Arab Emirates. Before going, she did some research and learned that the exchange rate is 4 Dirhams for every $1. How many Dirhams would she get if she exchanged $5?

13) Castel bought four bunches of fennel for $9. How many bunches of fennel can Mofor buy if he has $18?

14) If you can buy one fruit basket for $30 then how many can you buy with $60?

Answer each question. Round your answer to the nearest tenth. Round dollar amounts to the nearest cent.

15) Asanji took a trip to Mexico. Upon leaving he decided to convert all of his Pesos back into dollars. How many dollars did he receive if he exchanged 42.7 Pesos at a rate of $5.30 = 11.1 Pesos?

16) The currency in Argentina is the Peso. The exchange rate is approximately $3 = 1 Peso. At this rate, how many Pesos would you get if you exchanged $121.10?

17) Mary reduced the size of a painting to a width of 3.3 in. What is the new height if it was originally 32.5 in tall and 42.9 in wide?

18) Molly bought two heads of cabbage for $1.80. How many heads of cabbage can Willie buy if he has $28.80?

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Name_____

Simplifying Rational Expressions

Date_____ Period____

Simplify each expression.

1) $-\frac{36x^3}{42x^2}$

2) $\frac{16r^2}{16r^3}$

3) $\frac{16p^2}{28p}$

4) $\frac{32n^2}{24n}$

5) $-\frac{70n^2}{28n}$

6) $\frac{15n}{30n^3}$

7) $\frac{2r-4}{r-2}$

8) $\frac{45}{10a-10}$

9) $\frac{x-4}{3x^2-12x}$

10) $\frac{15a-3}{24}$

11) $\frac{v-5}{v^2-10v+25}$

12) $\frac{x+6}{x^2+5x-6}$

13) $\dfrac{27}{27x+18}$

14) $\dfrac{v^2-7v-30}{v^2-5v-24}$

15) $\dfrac{x^2+8x+12}{x^2+3x-18}$

16) $\dfrac{x^2-11x+18}{x^2+2x-8}$

17) $\dfrac{b^2+3b-28}{b^2-49}$

18) $\dfrac{v^2-3v-40}{v^2-11v+24}$

19) $\dfrac{4n-4}{6n-20}$

20) $\dfrac{v^2-5v-14}{v^2+4v+4}$

21) $\dfrac{6v^3+42v^2}{2v^2+26v+84}$

22) $\dfrac{x^3-x^2-42x}{2x^2-20x+42}$

23) $\dfrac{2v^2+10v-48}{8v+64}$

24) $\dfrac{9x^2+81x}{x^3+8x^2-9x}$

25) $\dfrac{x^2+2x-80}{2x^3-24x^2+64x}$

26) $\dfrac{3r^2-39r+90}{r^2-3r-70}$

Name_____

Simplifying Radical Expressions

Date_____ Period____

Simplify.

1) $\sqrt{125n}$

2) $\sqrt{216v}$

3) $\sqrt{512k^2}$

4) $\sqrt{512m^3}$

5) $\sqrt{216k^4}$

6) $\sqrt{100v^3}$

7) $\sqrt{80p^3}$

8) $\sqrt{45p^2}$

9) $\sqrt{147m^3n^3}$

10) $\sqrt{200m^4n}$

11) $\sqrt{75x^2y}$

12) $\sqrt{64m^3n^3}$

13) $\sqrt{16u^4v^3}$

14) $\sqrt{28x^3y^3}$

15) $\sqrt{36x^2y^3}$

16) $\sqrt{384x^4y^3}$

17) $7\sqrt{96m^3}$

18) $6\sqrt{72x^2}$

19) $-6\sqrt{150r}$

20) $5\sqrt{80a^2}$

21) $2\sqrt{125v}$

22) $-8\sqrt{24k^3}$

23) $-4\sqrt{192x}$

24) $2\sqrt{8p^2q^3r}$

25) $-4\sqrt{216x^2y^2z}$

26) $-3\sqrt{24a^4b^2c^3}$

27) $3\sqrt{16x^4y^4z}$

28) $-2\sqrt{48a^3b^4c^2}$

29) $6\sqrt{75mp^2q^3}$

30) $4\sqrt{36x^2y^3z^4}$

Kuta Software - Infinite Algebra 1

Name_____

Factoring Trinomials (a = 1)

Date_____ Period____

Factor each completely.

1) $b^2 + 8b + 7$

2) $n^2 - 11n + 10$

3) $m^2 + m - 90$

4) $n^2 + 4n - 12$

5) $n^2 - 10n + 9$

6) $b^2 + 16b + 64$

7) $m^2 + 2m - 24$

8) $x^2 - 4x + 24$

9) $k^2 - 13k + 40$

10) $a^2 + 11a + 18$

11) $n^2 - n - 56$

12) $n^2 - 5n + 6$

13) $b^2 - 6b + 8$

14) $n^2 + 6n + 8$

15) $2n^2 + 6n - 108$

16) $5n^2 + 10n + 20$

17) $2k^2 + 22k + 60$

18) $a^2 - a - 90$

19) $p^2 + 11p + 10$

20) $5v^2 - 30v + 40$

21) $2p^2 + 2p - 4$

22) $4v^2 - 4v - 8$

23) $x^2 - 15x + 50$

24) $v^2 - 7v + 10$

25) $p^2 + 3p - 18$

26) $6v^2 + 66v + 60$

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Name_____

Factoring Special Cases

Date_____ Period____

Factor each completely.

1) $16n^2 - 9$

2) $4m^2 - 25$

3) $16b^2 - 40b + 25$

4) $4x^2 - 4x + 1$

5) $9x^2 - 1$

6) $n^2 - 25$

7) $n^4 - 100$

8) $a^4 - 9$

9) $k^4 - 36$

10) $n^4 - 49$

11) $98n^2 - 200$

12) $3 + 6b + 3b^2$

13) $400 - 36v^2$

14) $100x^2 + 180x + 81$

15) $10n^2 + 100n + 250$

16) $49n^2 - 56n + 16$

17) $49x^2 - 100$

18) $1 - r^2$

19) $10p^3 - 1960p$

20) $343b^2 - 7b^4$

21) $81v^4 - 900v^2$

22) $200m^4 + 80m^3 + 8m^2$

Kuta Software - Infinite Algebra 1

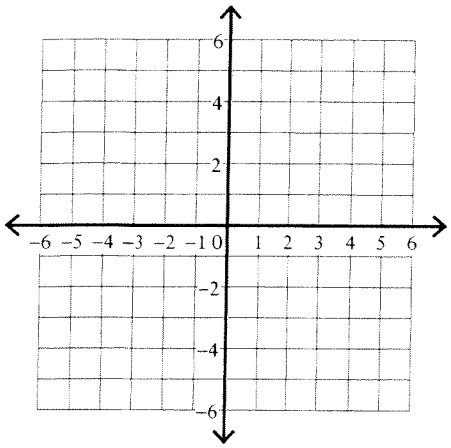
Name_____

Graphing Lines

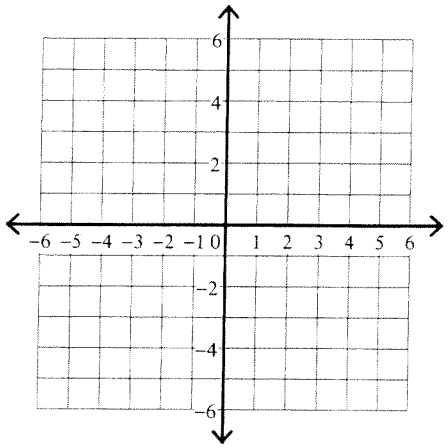
Date_____ Period____

Sketch the graph of each line.

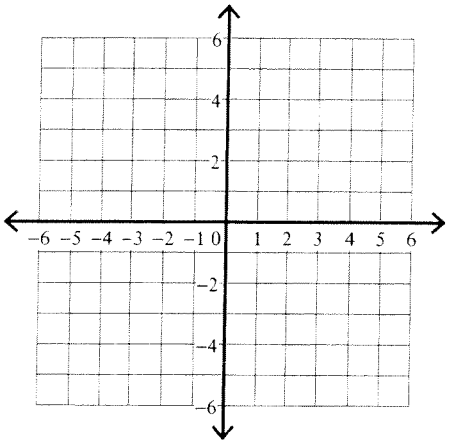
1) $y = -\frac{1}{5}x - 2$



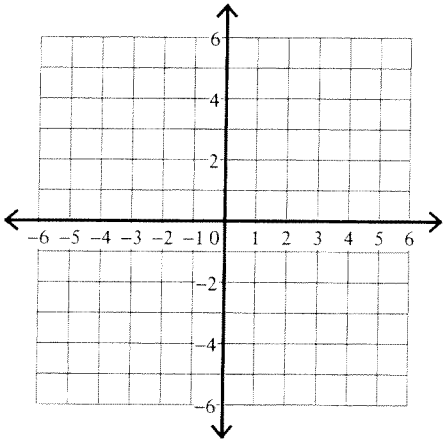
2) $y = -5x - 1$



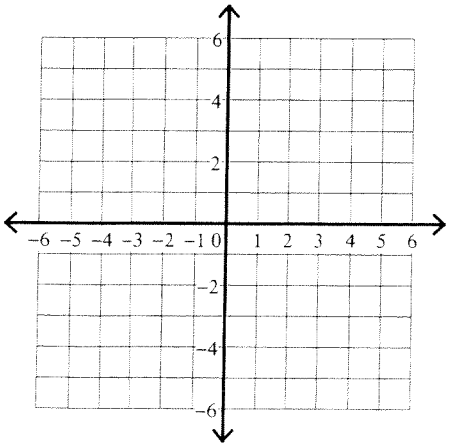
3) $y = -\frac{5}{2}x$



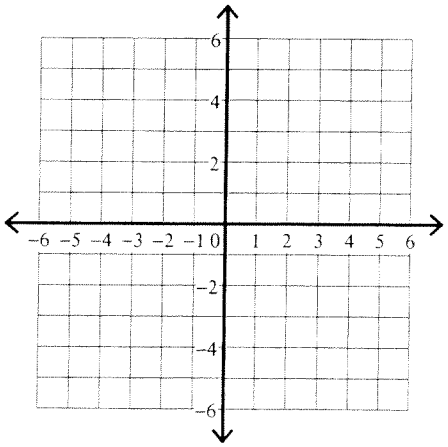
4) $y = -7x + 3$



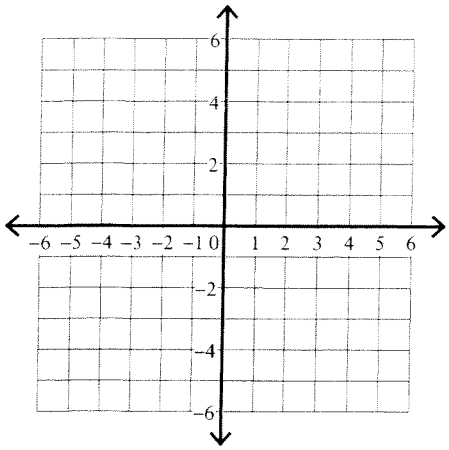
5) $y = 2x - 5$



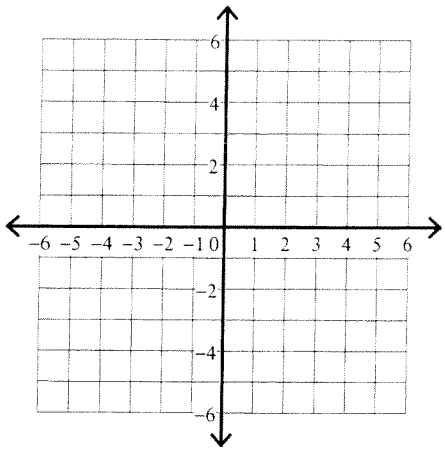
6) $y = -6x + 1$



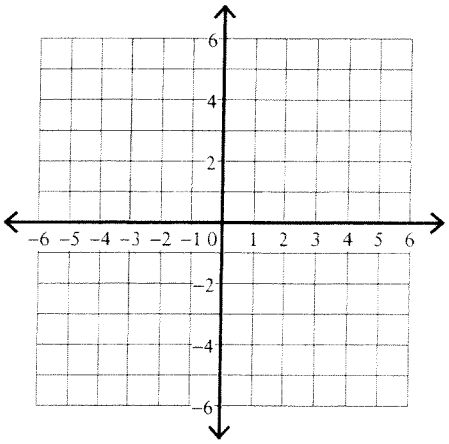
7) $y = -\frac{1}{3}x + 4$



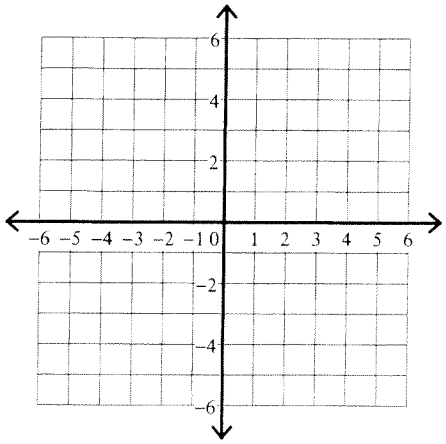
8) $y = 0$



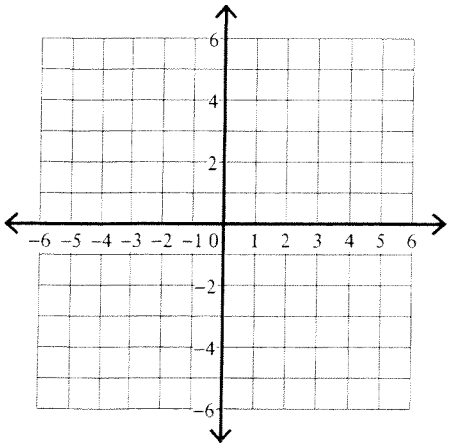
9) $y = -\frac{2}{5}x - 4$



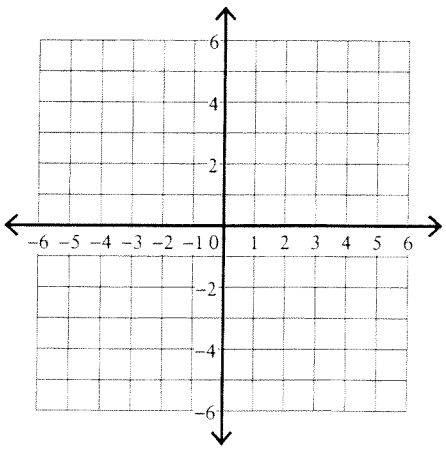
10) $y = 7x - 5$



11) $y = -6x + 5$



12) $y = -\frac{5}{2}x + 5$



Kuta Software - Infinite Algebra 1

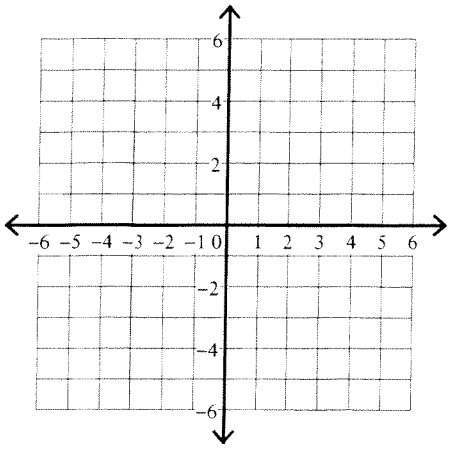
Name_____

Graphing Lines

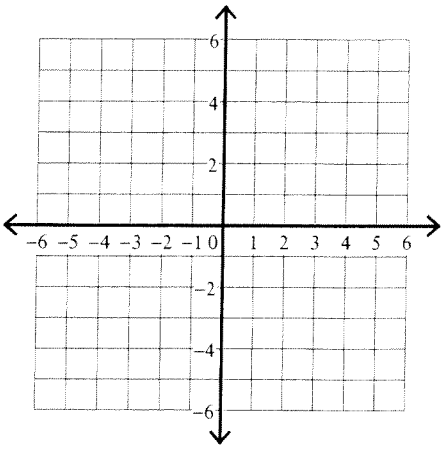
Date_____ Period____

Sketch the graph of each line.

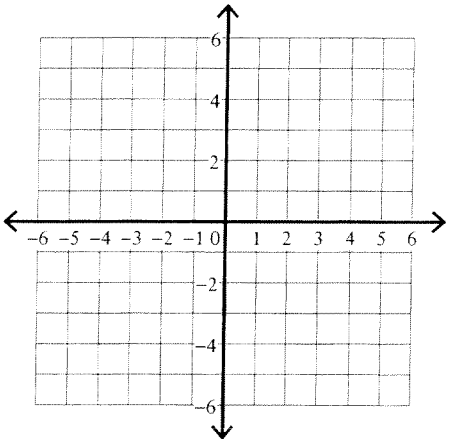
1) $x + y = -4$



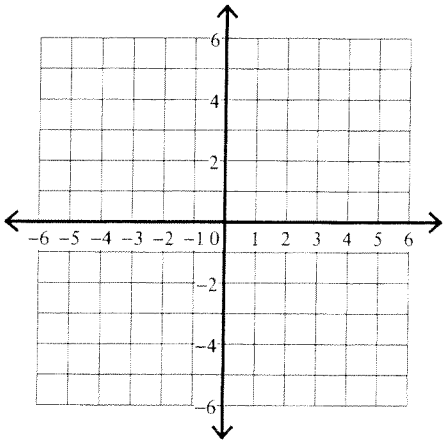
2) $x - y = -2$



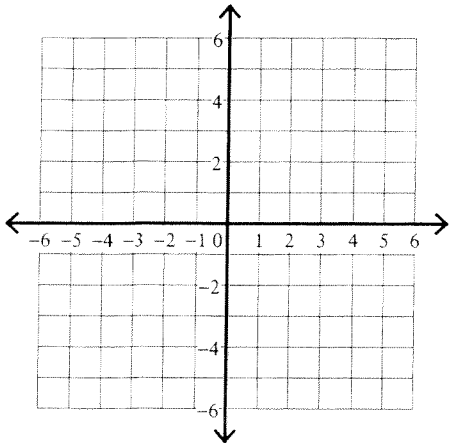
3) $2x + y = 1$



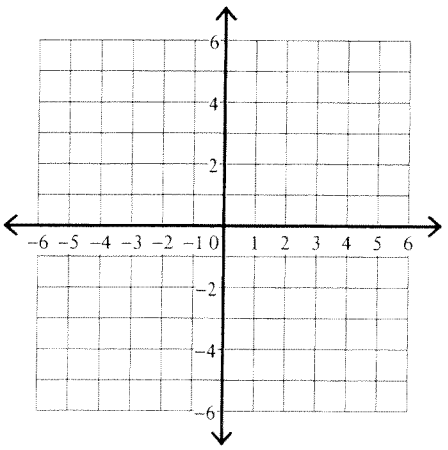
4) $2x + y = 4$



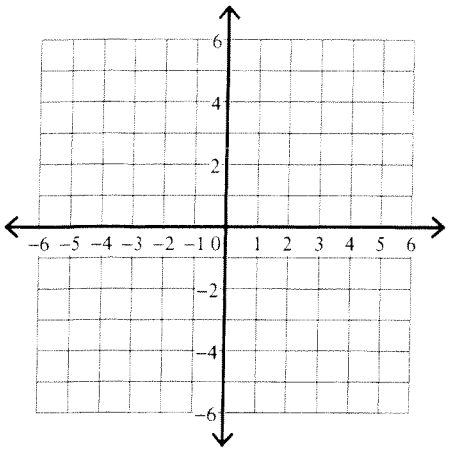
5) $x - 3y = 6$



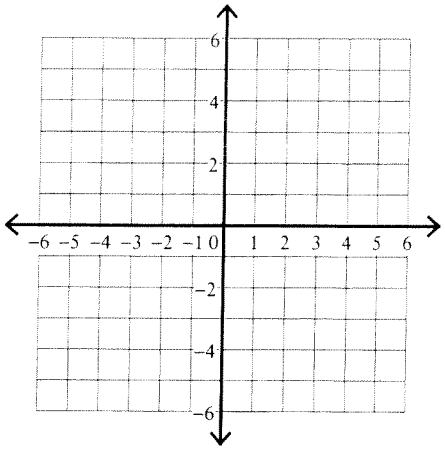
6) $x + 2y = 8$



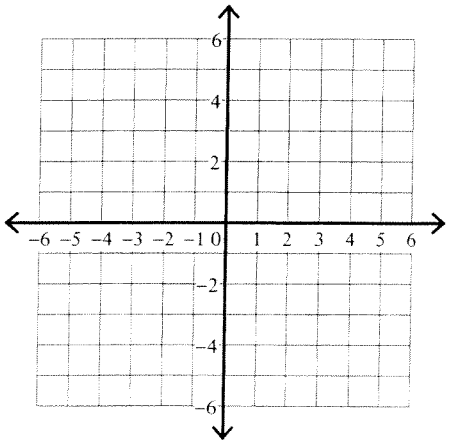
7) $y = -4$



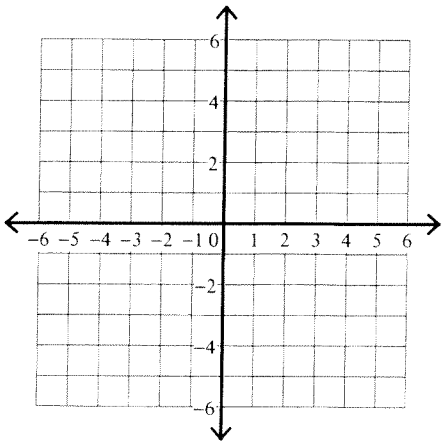
8) $x + 2y = 0$



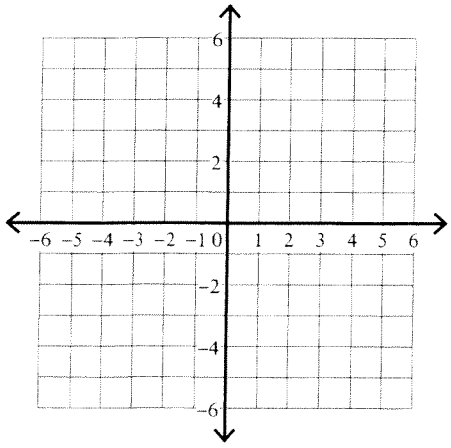
9) $x - 2y = -4$



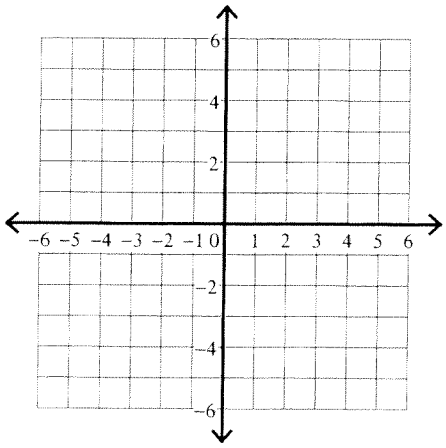
10) $2x + 3y = 6$



11) $x = 5$



12) $5x - 2y = 10$



Kuta Software - Infinite Geometry

Name_____

Simplifying Square Roots

Date_____ Period____

Simplify.

1) $\sqrt{96}$

2) $\sqrt{216}$

3) $\sqrt{98}$

4) $\sqrt{18}$

5) $\sqrt{72}$

6) $\sqrt{144}$

7) $\sqrt{45}$

8) $\sqrt{175}$

9) $\sqrt{343}$

10) $\sqrt{12}$

11) $10\sqrt{96}$

12) $9\sqrt{245}$

13) $7\sqrt{600}$

14) $5\sqrt{45}$

15) $5\sqrt{180}$

16) $3\sqrt{405}$

17) $2\sqrt{36}$

18) $9\sqrt{125}$

19) $8\sqrt{27}$

20) $12\sqrt{1764}$

21) $3\sqrt{900}$

22) $7\sqrt{2535}$

23) $11\sqrt{1215}$

24) $2\sqrt{200}$

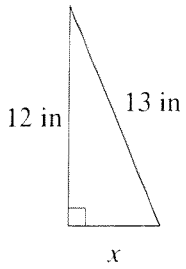
Kuta Software - Infinite Geometry Name_____

The Pythagorean Theorem and Its Converse

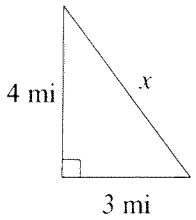
Date_____ Period____

Find the missing side of each triangle. Round your answers to the nearest tenth if necessary.

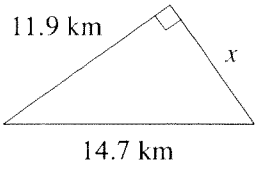
1)



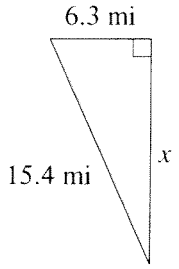
2)



3)

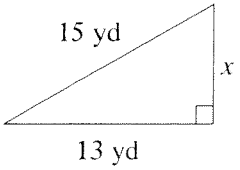


4)

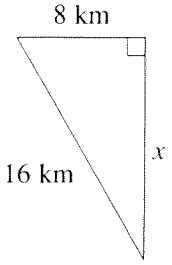


Find the missing side of each triangle. Leave your answers in simplest radical form.

5)



6)



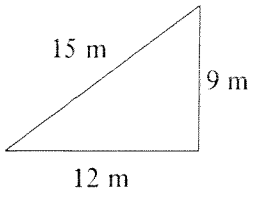
Find the missing side of each right triangle. Side *c* is the hypotenuse. Sides *a* and *b* are the legs. Leave your answers in simplest radical form.

7) $a = 11$ m, $c = 15$ m

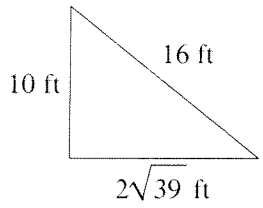
8) $b = \sqrt{6}$ yd, $c = 4$ yd

State if each triangle is a right triangle.

9)



10)



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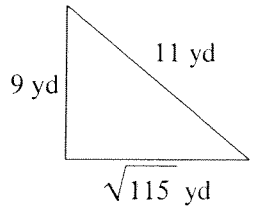
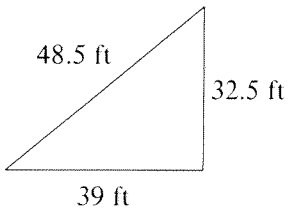


12)



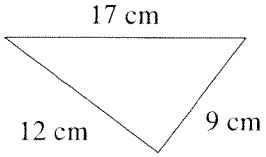
State if the three sides lengths form a right triangle.

13) 10 cm, 49.5 cm, 50.5 cm

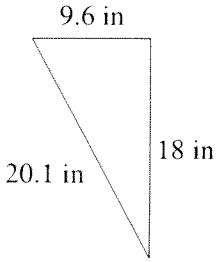
14) 9 in, 12 in, 15 in

State if each triangle is acute, obtuse, or right.

15)



16)



State if the three side lengths form an acute, obtuse, or right triangle.

17) 6 mi, $2\sqrt{55}$ mi, 17 mi

18) 4.8 km, 28.6 km, 29 km