Marked with appropriate CCSS. 8th grade means 8th grade or earlier
Some questions (of course) involve more than one standard.

PART A

8th gd 1. Write $5A/(2+(1/3))$ as a single fraction times A.

2. Multiply out $(2a-5)^2$ and collect terms.

8th gd 3. Solve $10x-5=17$ for x.

8th gd 4. Solve $6/x=3/8$ for x.

8th gd 5. If $a=3$ and $b=-4$, find the value of $5ab-3(a^2b)$.

6. Write $3x-6<-5x+10$ in an equivalent form $x<C$ or $x>C$ for a suitable constant C.

8th gd 7. If $9A=5(C-32)$ and $A=100$, find C.

8th gd 8. Give the slope of the line through the points (0,3) and (5,0).

9. Multiply out $t(t^2-3)^2$ and write the answer as a polynomial in t.

10. Simplify $(8s^2+2s)/2s$ as much as possible.

8th gd 11. Suppose that the price of a gallon of goo is now G dollars, and that if the price increases by 50%, then the price will be \$60. Find G.

8th gd. 12. Combine the factors of $(-3x^2y^5)(2xy^3)$ into the form Cx^ay^b.

Score of >50% on parts A & B to place into lowest credit bearing courses, e.g. Math 111 = College Algebra

PART B

A-APR.6 1. Simplify $((x+2)/(x^2-9))\cdot((25x+75)/(5x+10))$ as much as possible.

8th gd 2. If $22M=4-2x$, for which values of x is $M\geq 11$?

8th gd 3. Solve $|7-x|=4$ for x.

A-SSE.2 4. Factor $3z(5z+2)-3z(z-7)$ completely.

8th gd. 5. Find all values of d that satisfy $2d^4=10d^3$.

8th grade 6. Suppose that $xy\neq 0$. Write $(5y^2/x^3)^{-2}$ in the form Cx^ay^b.

A-REI.4 7. Solve $1/(2x-3) - 1 = x/(2x-3)$ for x.

8th gd. 8. The rent for a piece of equipment is \$12 per hour for the first two hours and \$9 per hour after that. How long can the equipment be rented for \$60? What is the average cost per hour for the full rental period?

A-REI.7 9. A given rectangle has length L and width W. Its area is at most 100 square inches, and its length is 24 inches greater than its width. Write equations or inequalities that describe these two conditions.

N-RN.2 10. Suppose that $x > 0$ and $y > 0$. Write $\sqrt{9y^5/x^4}$ in the form $Cx^a y^b$.

PART C

Score of >50% on all parts to place into science oriented calculus, e.g. Math 251

Here and in Part D log *means logarithm to the base 10 and* ln *means logarithm to the base* e.

A-REI.4 1. Solve $(x-5)x = 6$ for x.

A-REI.4, A-SSE.3* 2. Find all values of a such that $(a^2-4)(a+2)/(a-2) = 0$.

8th gd.* 3. Solve $L = F/(r+t)$ for r in terms of L, F and t.

A-APR.6 4. Suppose that $a \neq 0$. Simplify $((y+a)^2 - y^2)/a$ as much as possible.

A-REI.3 5. Find and describe all solutions x of the inequality $(3x-5)(x+4) > 0$.

A-REI.4, N-RN.2* 6. Find all the solutions z of $(\sqrt{z})^2 - \sqrt{z} - 6 = 0$.

A-ARR.1 7. Suppose that $f(x) = x^3 + 2x$ and that h is constant. Write $f(x+h)$ as a polynomial in x.

A-REI.4 (Modeling-baby) 8. The height above ground in feet of a blob t seconds after it is dropped from a cliff is given by the function $h(t) = 144 - 16t^2$. After how many seconds will the blob strike the ground? How high is the cliff?

F-LE.4 9. The size $S(t)$ of a lump at time t is given by $S(t) = S_0 e^{kt}$, where S_0 and k are constants. If $S(1) = 5S_0$, find the value of t for which $S(t) = 125S_0$.

10. If $x > 0$, $y > 0$ and $\log(xy^2) = 20$, find $\log y$ in terms of $\log x$.

PART D

F-TF.8 1. Find $\cos^2 2x + \sin^2 2x$.

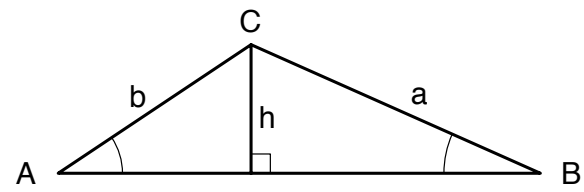
2. Solve $\log(b/7) - \log 2A + \log 7 = 0$ for b in terms of A.

F-LE.4 3. Solve $5e^{x-1} = 2y$ for x in terms of y.

F-TF.4 4. Write $\sin(x - (3\pi/2))$ in terms of $\sin x$ and $\cos x$.

F-TF.2 5. If the point $(5, -4)$ is on the terminal side of the angle θ in standard position, find $\sin\theta$ and $\cos\theta$.

F-TF.2 6. Find a in terms of α, β, b and h for the triangle ABC shown.



F_TF.8 7. If $\cos x = 2/5$ and $0 < x < \pi/2$, find $\tan x$.

F-BF.3 8. Describe the graph of the function $f(x+2)+5$ in terms of the graph of $f(x)$.